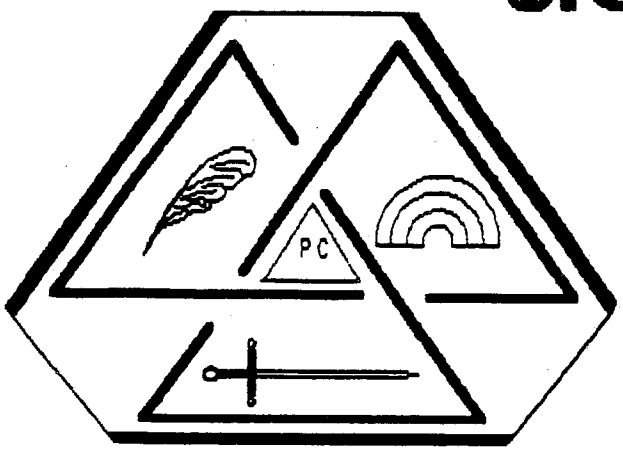
SEP '85

DECUS

PERSONAL COMPUTER SIG NEWSLETTER



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About this newsletter:

The graphic on the front is a proposed logo for the PC SIG, designed by Tom Hintz. The sword represents the PRO, the quill represents the DECmate, and the Rainbow, of course, represents the Rainbow.

The title page was composed using FNCYFNT, an MS-DOS Public Domain font program by J. Anthony Movshon, using Gothic Bold and Double fonts on an LA-50 printer. FNCYFNT is available on several FIDO net bulletin boards and from some user group libraries.

The Newsletter itself was composed using WordPerfect Version 4.0 with an LA50 printer.

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FROM THE EDITOR

Several comments this time. . .This is the first issue of what has come to be known as "The Big One." The Big One, which combines all SIG Newsletters, is an attempt by DECUS to cut publication costs and to be certain that subscribers receive something for the money they have paid (since not all SIGs publish newsletters when promised, and some never publish at all). The cost of the single combined newsletter will allow those who previously subscribed to numerous newsletters to save money, but will cost others, who previously subscribed only to one or two newsletters, more money than before. (It is $35/year.) For many DEC PC owners, particularly those who do not use their Rainbow, PRO or DECmate as an adjunct to a VAX or other minicomputer, the new combined version will have far more information than necessary--on totally unrelated subjects. This editor was against the idea of , but, like the other SIG newsletter editors, had absolutely no choice in the matter, which was decided by the DECUS Management Council.

The PC SIG Newsletter will probably continue to be a quarterly publication, although the "Big One" will appear monthly. Those who subscribed to it last year will notice that some of the articles in this newsletter appeared in the last newsletter. This issue of the newsletter is slated to go to all 42,000 (or so) DECUS members, not just the 2000+ people who already subscribe to the PC SIG Newsletter. So a few of the articles have been repeated in this issue.

There is a something which appears to me to be a much bigger problem for DECUS PC SIG members. That is the overly restrictive DECUS commercialism policy (the portion governing publications is reproduced below). While it is laudable to keep DECUS members from being harrassed by overzealous salesman (whether from DEC or third party manufacturers), I feel that the policy is far more harmful than helpful. As many of you are aware, I was forced to "white out" all prices in the last PC SIG Newsletter. This meant that, for instance, the article which explained how to cheaply upgrade memory in the Rainbow, which featured a comparison of the prices on DEC and non-DEC RAM chips (DEC's are more than fourteen times as expensive) was ludicrous. The software reviews (written by people who had used the software) were characterized by one zealous DECUS employee as being "practically commercials."

The situation is particularly bad for PC owners because there is no other national forum which focuses on DEC PCs. The non-specific computer magazines almost never mention DEC. (Why should they, when DEC commands less than 4% of the total PC sales?) In the three DEC-specific commercial magazines, the situation is almost as bad! Digital Review, which originally devoted most of its space to the Rainbow and Pro, has dropped PC coverage almost entirely. Personal and Professional has gone from a 6 times a year DEC PC magazine to 24 monthly pages in a special issue of The DEC* Professional. Hardcopy continues to have about one article a month, and has added a single page Rainbow column.

While it is not necessarily reasonable for the DECUS PC SIG Newsletter to attempt to take the place of non-existant commercial magazine coverage, there really isn't much else available to the thousands and thousands of DEC PC users who have been left high and dry by DEC's disastrous and capricious marketing policies.

DEC PC users must have an opportunity to compare software and hardware, both DEC's and that of third party manufacturers, INCLUDING PRICE INFORMATION. To continue to "white out" all price information is ridiculous. I urge you to write to the DECUS Board of Directors [send mail to them at DECUS, 249 Northboro Road (BP02), Marlboro, MA 01752] to ask them to repeal or at least rewrite the commercialism policy so that the PC SIG Newsletter and other PC related publications (and preferably other newsletters) can present a balanced picture to its readers. If you write, please cc me.

More Bad News: DEC continues to pull away from the PC market. DEC Business Centers (at least in the Washington D. C. and Baltimore areas,) will no longer carry Rainbows, Rainbow software, and supplies. For instance, in order to get DEC LA-50 ribbons, I have two choices: either DECdirect or the DEC Electronic Store. Forget a quick trip to pick up a few ribbons. Of course, as many people are aware, it is possible to get C. Itoh Prowriter ribbons, since the LA-50 is really a Prowriter underneath its DEC label, but the ribbon quality is usually not as good.

What a thrill it would be to be able to walk into a computer store, browse around, check out the latest stock of Rainbow software, find a few new books dealing with aspects of the Rainbow, and pick up the latest copy of a magazine or two. Or to find some software suitable for children. . .

For those who are nervous about submitting articles because of the DECUS/DEC copyright on the newsletter, Paula Morin, of DECUS, clarified the issue for Barbara Maaskant. Paula states that the individual author "owns" the individual copyright on his or her individual article. DECUS/DEC own the copyright on the final document: so it is not okay to copy the whole newsletter. If the person is the author of the article, he or she does not lose or relinquish rights to the article by having it published in the PC SIG Newsletter. (That's a relief.) If you are concerned, feel free to copyright articles. If you do, and you submit them to the newsletter, you are implicitly giving permission to publish them, also for the editor to make editorial changes (don't worry, I don't have time to make too many).

Because a number of the articles in this newsletter were originally published in the Washington Area Rainbow User's Group Newsletter, there are a lot of references to the WARUG Public Domain Library, which currently has over 65 volumes of public domain software. Most of the software is not in the DECUS library yet. Much of this software is available on FIDO bulletin boards and/or other DEC PC LUGs. If neither of these sources is available to you, contact Jack Ference, the WARUG Public Domain Librarian. (Please send a stamped, self addressed envelope for information on how to use the library and a list of the volumes and their contents. His address is: Jack Ference, 5511 Suffield Ct., Columbia, MD 21044.)

The PC SIG now has a growing and active leadership. We are here to serve you. Let us know who you are, what you want the PC SIG to do, how the SIG can help you, and what you want to see in the newsletter. Be sure to fill out the questionnaire at the back of this issue (it will be in a special section). The SIG does exist between DECUS Symposia. Since the SIG is national, it doesn't function as simply as a Local User Group, where it is easy to call up someone and shoot the breeze (without incurring long distance bills). Networking is a popular concept--both in computers and jobs. It can work for PC SIG members too. If you are an expert--or at least competent--in something related to the Rainbow, PRO, or DECmate (software application or hardware), and would be willing to help others, please say so in the questionnaire. We will develop a contact list if there are enough volunteers.

Consider writing an article for the newsletter. It is dependent upon your contributions! Reviews of commercial and public domain software, technical articles, how-tos, summaries of other meetings you've attended, rumors, complaints, questions, answers, new products, citations of reviews on DEC hardware and software, comic experiences--and whatever else you can think of, are needed. Details on how to submit articles are below.

Despite the fact that many DEC PC owners feel abandoned, there is a large number of Rainbow, PRO, and DECmate users. Get involved with the PC SIG and local user groups. You have nothing to lose, and much to gain!

Caroline Mack
July, 1985

HOW TO SUBMIT ARTICLES TO THE PC SIG NEWSLETTER:

If you write an article for the newsletter, please send me a hard copy by mail (my address is above). Also, if the article is more than 2 pages long, or has anything which is difficult to type, send me your articles in one of the following formats (let me know which it is!):

- WordPerfect on an MS-DOS formatted floppy disk
- WordStar on an MS-DOS or CP/M formatted floppy disk
- Samna on an MS-DOS formatted floppy disk
- ASCII on an MS-DOS formatted floppy disk--remove all formatting commands first, please, or I'll have to strip them out one by one
- Hard copy (typed or printed out)
- Via modem using DECMINI (call first)
- Via DCS (DECUS)
- Upload to the WASH-A-RUG FIDO Bulletin Board (703) 359-6549

I expect the next PC SIG newsletter to be published in December unless something unusual happens. The deadline for submissions to that issue will be October 10.

GREETINGS FROM THE CHAIRMAN

As most of you know, the PC Special Interest Group has undergone a lot of change in the past six months. In December, 1984 at the DECUS Symposium in Anaheim, new leadership was elected. I became Chairman of the PC SIG, Rick Eliopoulous was elected Symposia Coordinator, Lynn Jarrett was elected Rainbow Working Group Chairman, and Celeste Markovitch agreed to become Newsletter Editor. Each of us was a novice not only in our PC SIG position, but to DECUS Leadership. Thanks to the three "veterans" who remained, Tom Hintz, Pro Working Group Chairman, Cheryl Johnson, DECmate Working Group Chairman, and Mark DeMoss, who had previously edited the Newsletter, and who became the new Communications Committee Representative, we all left Anaheim with a shot in the arm of enthusiasm and plans to work hard getting the SIG on its feet for the DECUS Spring Symposium in New Orleans.

We met in late February, where plans for New Orleans and building a stronger PC SIG began to take shape. We had just gotten a newsletter issue out when Celeste had to resign her position as editor. Fortunately we succeeded in recruiting Caroline Mack as PC SIG Newsletter Editor in the midst not only of getting the next issue out, but of a DECUS wide fracas over going to a new format which would include all SIG Newsletters in one combined monthly issue. Caroline's reputation as the editor of the Washington Area Rainbow User's Group Newsletter preceeded her.

The SIG's primary goal for New Orleans was gaining exposure. A lot of hard work, and, I don't mind admitting, apprehension, preceeded the New Orleans Symposium. Both the hard work and apprehension paid off. The SIG sponsored a very successful open house in the SIG suite on Monday evening, and a Software Clinic on Wednesday evening. Special thanks go to our Digital Counterparts, Katrina Holman, John Bennett, and the outgoing Steve Coughlin for coordinating volunteer time from already overworked Digital developers who spent time during the clinic answering questions and solving problems. I am not exaggerating when I say that on both nights, there was standing room only in the suite. In addition, a software raffle, with software donated by each of the counterparts and Jim Butler, of the Peripherals and Supplies group, was held on Wednesday. Six software packages were raffled (instead of tickets, participants offered their business cards). One of the most popular activities was public domain software distribution. DEC made a fully loaded Rainbow 100+ available to the SIG to allow people to view new and recently announced Rainbow products.

When not used for demos, the 100+ was hard at work making copies of the seven Public Domain Software disks which were available. The most popular items were the Rainbow graphics subroutines provided by Marshall Goldberg of Digital, and Tom Jenning's FIDO Bulletin Board System. At least 450 diskettes were copied before the wrap up session on Friday, when to everyone's disappointment, the suite had to be closed. Many thanks to those who volunteered time on this project and particularly to Rick Eliopeulous, whose sustained energy and enthuslasm kept us going.

As you can see from the greatly expanded list of Steering Committee personnel, the SIG successfully filled several positions that it advertised during the New Orleans Symposium. I am happy to welcome the new members.

New Orleans is barely past, and the steering committee is already working hard planning and preparing for the Fall Symposium in Anaheim. There are several things to look forward to in the Fall. The software exchange will be offered again, and we hope to have diskettes readily available (though you may want to bring some blank diskettes with you). At least one suite party is planned; currently we are leaning toward a "PC PUB" theme. The clinic will be repeated and the SIG is hoping to have a campground for better accessibility and placement of two Rainbows, a DECmate, a PRO, and perhaps even a Robin. Two Pre-Symposia Sessions are planned; one on FIDO Bulletin Board Systems, and one on Graphics. Look for more information on them in the early registration form.

At least one store item will be sponsored by the SIG, and Session Notes will be available. Many more user presented sessions will be offered, including a PC Magic Session and several interesting panels. So save up your favorite questions, wish list items, user of the week, and war stories to share with us in Anaheim. There will be a PC Campground, too! I look forward to seeing you there!

Barbara A. Maaskant
Chairman

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RAINBOW CORNER

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Katrina Holman
DEC Counterpart

What's new with the Rainbow personal computer? Recent PC Applications available from Digital include Symphony, DESQ, dBASE III, 20/20, AutoCAD 2, Overhead Express, GraFIX Partner, and Do-It. The Rainbow 190 Office System and a Rainbow 100+ to Rainbow 190 Upgrade kit, which includes WPS-PLUS/Rainbow and Rainbow Office Workstation software, are now shipping. DECNET/Rainbow was also discussed at sessions in New Orleans.

A new Rainbow Product Guide (EZ-W4968-85) was created especially for the Spring 85 DECUS and distributed there. It contains descriptions and ordering information for each of the Rainbow software packages and hardware options sold by Digital as of May, 1985.

Katrina Holman, the PC SIG DEC Rainbow Counterpart, is with the Personal Computing Systems Group at DEC.

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SYSTEM OPERATOR'S CORNER

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by Kurt Reisler

Running on a DEC-donated Rainbow 100B, in facilities provided by Hadron, Inc., the Wash-A-RUG FIDO has been continual operation for the last 4 months. The board runs under the auspices of the Washington Area Rainbow Users Group, and has become a primary clearing-house for technical information about the Rainbow PC, as well as a source of public-domain software. Although heavily used by the local Rainbow population, the board has been used by individuals as far away as California. In addition, users on the board have received FIDOMAIL from other FIDO systems as far away as Hawaii. In its four months of operation, the Wash-A-RUG FIDO has accumulated over 300 regular users, and averages about 200 callers per week. The system has over 5 Megabytes of public domain software available for downloading. This amount keeps increasing (and available disk space keeps decreasing) as users and the SYSOP keep uploading new software to the system.

What are FIDO and FIDONET? FIDO and FIDONET are complementary parts of a public-domain bulletin board system which was developed by Tom Jennings in San Francisco, CA.

What began as a hobbiest's experiment has quickly grown to be a major revolution in communications. Starting with 2 boards in June of 1984, FIDO has spread to over 400 boards. These boards are running on PCs in the US, Canada, England, Sweden and Indonesia. For the most part, these boards are run by individuals on their own PCs. Although FIDO runs on a variety of PCs which support MS-DOS and PC-DOS (including the DEC Rainbow, IBM PC, PC jr, Otrona, Tandy 2000, Victor 9000, and Sanyo) the user interface is standard across FIDOs. Additionally, the FIDO BBS offer a variety of protocols for file transfer. Users can select either KERMIT, XMODEM, MODEM7, TELELINK or raw ASCII protocols.

FIDONET is a scheduled portion of the FIDO BBS which makes it unique among the public bulletin boards. FIDONET allows FIDO systems to provide Electronic Mail (E-mail) services for its users. Using a dial-up network, with regions and hosts, a user can route messages and/or files between distant systems quickly and at a relatively low cost. Routing is done automatically by FIDO, and FIDONET is run during scheduled "windows" on all FIDO systems participating in FIDONET. FIDONET allows FIDO SYSOPs to stay in touch and stay involved in the evolution of the system. In addition, it is an efficient way of distributing the weekly FIDO Newsletter, and weekly updates to the nodelist. Most FIDO systems require that users establish a "credit" balance (usually $5) to make use of FIDONET to non-local FIDO nodes. The "per-message" cost (usually $.025 each) is deducted from this balance. The software to establish a FIDO system can be obtained from a variety of sources. You can purchase the software from the author (Tom Jennings) for one hundred dollars. This price was established to discourage people from buying it directly from Tom. You can usually download the required software from the local FIDO systems in your area.

I keep both the IBM and the DEC Rainbow versions available on the Wash-A-RUG FIDO. The other versions can be downloaded from some of the larger systems which have the diskspace to spare. Finally, you can obtain the software from the DECUS Library (DECUS Program RB-102 FIDO version 10g) for a cost of twenty-five dollars ($25). I hope to get the most recent version (V10m) into the library this week.

So, whats new in public domain software on the board? Here is a sample:

ARC.LBR A new file compression utility has become popular.

ARC.EXE combines the functions of squeezing and unsqueezing files, as well as archiving them. It selects one of four compression methods and creates archive files with a .ARC extension. The

library contains the executable and documentation.

MAINT.ARC There is a MS-DOS version of the CP/M "MAINT" utility. The archive contains the executable, documentation and source.

DTC.ARC This archive contains a desk-top calendar program. The archive contains the executable, documentation and an initial data file.

QIX.COM and MONSTA.EXE Both of these are games that use the Rainbow screen graphics. They are both from the Gnomes at DEC.

SCRAM.ARC This is a public domain version of the DEC graphics game. It requires the use of the Rainbow graphics board, and looks best with a color monitor.

JETSET.ARC This is an excellent simulation game that puts you at the controls of a 747. The archive contains executable, documentation and diagrams.

HACK.ARC This is an addictive D&D type game that can be run on any MS-DOS micro, as long as it has ANSI support (a natural for the Rainbow). It does require 256 Kb free memory to play. It can take upwards of 41 minutes to download at 1200 baud.

EMPIRE.ARC This is another generic MS-DOS game. It is slow to initialize, but seems to be interesting to play. Archive contains all the needed files and documentation.

DECMINI.EQE (version 3.2 18 May 1985) This is a fixed version of Tom Jenning's communication program. Earlier bugs have been fixed, and it also will support 2400 baud modems without problems. Versions exist for other hardware configurations as well.

MSKERMIT.EQE (version 2.27) This is an enhanced version of the MS-DOS version of the popular KERMIT program.

This is just a small sample of what is available on FIDO bulletin boards around the country (and the world). [Editor's Note: See the list of DEC related bulletin boards at the end for telephone numbers of these boards.] The amount of public domain software increases daily, as users upload to the boards, and as SYSOPs circulate things through FIDONET. I would strongly recommend that you investigate local FIDO systems as a method of obtaining public domain software, and for keeping in touch with other Rainbow users.

Kurt Reisler is a Software Engineer with Hadron, Inc. In addition, he is the SYSOP for The Bear's Den (FIDO 109/74) and the Wash-A-RUG (FIDO 109/483). He is also the network coordinator for the FIDO systems involved in the Washington DC area FIDONET (net 109 Wash DC Metro). Kurt is also very active in DECUS, as the PC-SIG Software Librarian, and Session Notes Editor for the UNISIG. At the DECUS Symposia, he can usually be found wearing a camouflage jacket covered with buttons.

(c) 1985 by Kurt Reisler & The Bear's Den

GUEST EDITORIAL

HERE WE GO AGAIN. . .OR, WE ALL KNOW THAT THE RAINBOW WON'T RUN LOTUS 1-2-3

by Will Roberts

How many times have you heard or read that LOTUS 1-2-3 is available only on the IBM-PC or that if it is available on the DEC Rainbow that the DEC machine is slow and awkward? I can't begin to count the number of times I've seen this canard in print or heard it from personal computer "experts" in my own office and the offices of friends and business associates.

Well, I for one have been slow in adopting LOTUS on my Rainbow because it's a poorly implemented adaptation of the original LOTUS for the IBM PC. For example, the Rainbow can display 132 column text making it easy to see twelve months of figures on the screen at once. LOTUS doesn't use this feature because it's not available on the IBM PC. And LOTUS color graphics don't use the full 16 color palette of the Rainbow because the IBM PC doesn't have that wide a choice of colors in its basic spectrum. And of course, LOTUS on the Rainbow is rumored to be slow although the Rainbow uses the same processor and clock speed as the IBM PC. The truth here is that the Rainbow version fails to use the fast screen function because LOTUS didn't take the time to adapt its product to the hardware with the same degree of intimacy it did on the IBM PC.

According to the July 8, 1985 issue of InfoWorld, LOTUS will soon be releasing a version 2.0 (due out this fall) which will include string arithmetic and a number of other fixes and enhancements. As a DEC user, I certainly hope that DEC has learned its lesson and will deal with the folks at LOTUS, even if it means a costly subsidy, to get a decent implementation of 2.0 on the Rainbow.

I urge Rainbow 1-2-3 user's to contact DEC's headquarters office in Maynard, Massachusetts, and urge the company to make sure that it does not completely relinquish the desktop to Big Blue.

Will Roberts is a member of the San Francisco Bay Are DEC PC User Group. This editorial was excerpted from an editorial in the San Francisco Bay Area DEC PC User Group News.

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PRODUCT REVIEW: GRAPHWRITER
by Dennis K. Fitzgerald

Graphwriter is a presentation graphics package from Graphic Communications, Inc. The Rainbow version runs under MS-DOS V2.05 or V2.11 and is distributed by Digital (Part no. QAX07-C3) at a list price of $. . It is well customized to the Rainbow and produces impressive results. It is not, however, a toy. In conjunction with the high resolution output devices that Graphwriter supports, it is much like having a resident graphics artist. For a user who needs to produce a lot of high quality graphics and can afford a pen plotter or Polaroid Palette, Graphwriter can be great. For a small user with nothing but an LA50 or LA100, it is just too much, and an integrated package like Lotus 1-2-3 or Symphony would probably be more suitable.

Graphwriter has two parts, a Basic Set and an Extension Set. The Digital Distributed Software (DDS) version includes both sets. The Basic Set supports a set of basic graph types: six types of bar charts, pie charts, line charts, scatter plot charts, a combination bar and line chart, and a pure text chart. As if those were not enough, the Extension Set adds a combination pie and bar chart, Gantt charts, organization charts, bubble charts, table charts, surface/line charts, line/table charts, and five more types of bar chart. They come on a whopping nine Rainbow disks. Fortunately, they are organized so that you never need more than two at a time.

Graphwriter "composes" your charts using defaults that generally ensure high quality results. However, if the default style doesn't suit you, you can vary almost any style attribute including color, type font, type size, orientation, plot size, spacing, and line and bar style (solid, dotted, cross-hatched, etc.).

Graphwriter comes with an extensive manual including introductory, tutorial, and reference sections. It is completely oriented towards the Rainbow and includes precise instructions on resetting the computer, copying disks, and adjusting Set-Up attributes. Examples are given of each chart format, each style attribute, and each menu. In addition to the manual, the package includes a brief Format Selection Guide that lists all of the supported formats with an example of each one and provides brief instructions on how to make effective graphics using Graphwriter.

Graphwriter is completely menu-driven. However, an expert user can anticipate and type responses before the menu appears. In this case, the menus are not displayed. Data can be entered directly from the keyboard, can be saved and recalled from one session to another, or can be imported from SYLK (Multiplan) or DIF (VISICALC) files. Several chart formats are compatible with other formats (e.g. a stacked bar chart with a clustered bar chart). In these cases, you can change formats without reentering the data.

Devices supported include the DEC LA50, LA100 (and LA210) printers, the Rainbow Color/Graphics option (for previewing plots), several pen plotters (HP 7470A, HP 7475A, HP 7550A, and Digital LVP-16), and the Polaroid Palette. An appendix to the manual provides precise instructions for attaching and setting up each of these devices including cables, device switch settings, and Rainbow SET-UP settings.

My personal experience with Graphwriter is somewhat limited, but what I have tried has been very impressive. Some random thoughts include:

o Graphwriter is heavily overlaid. As a result, it runs rather slowly from diskettes. It can be installed on a hard disk, and runs much faster, but uses up about 2.5 Megabytes of disk space!

o I had a lot of hopes for using the Gantt and Bubble charts in conjunction with my work as a software engineer. While the resulting charts can be quite nice, they need so much specification that it is easier for me to do by hand.

o I am quite impressed with Graphwriter's use of the Rainbow Color/Graphics option for previewing displays. (I don't have a color monitor, but the black and white display is quite adequate for preview purposes.)

o The manual is excellent. My compliments to the writers and editors at Graphics Communications, Inc. If all manuals were this good, life would be much easier for all of us.

o Importing files from Multiplan is a snap. You just save the spreadsheet using the SYMBOLIC option, and then tell Graphwriter which rows and columns to use for labels and data.

o The ability to try different formats using the same data is very useful. As the manual points out, different formats highlight different aspects of the data and can be chosen to send the message that YOU want to get across.

Summary: It's hard to justify the price of this package in my own (non-business) situation, but I really like this package. (Now, if I could just get a pen plotter....)

Dennis Fitzgerald is a Senior Software Engineer with Computer Science Corporation. This article appeared previously in the WARUG Newsletter.

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PRODUCT REVIEW: OVERHEAD EXPRESS
by N. Jay Bassin

It seems that whenever I am giving a presentation to an important group, I am preceeded and followed by people who seem to have their own graphic arts departments. Their professionally typeset, multi-font visuals tend to be compared to my felt-pen creations (which always look crooked), with disturbing results to my already-dicey artistic reputation. If you were also held back for remedial crayola, but do need professionally prepared visuals (for overhead transparencies, slides or even report covers), have I got a tip for you! The folks at Business & Professional Software, Inc. (143 Binney Street, Cambridge, MA 02142; 617/491-3377) have recently introduced their program Overhead Express for the Rainbow and DECmate II [$; MS-DOS; dot-matrix printer required, graphics card recommended. DEC itself markets Overhead Express as "Digital Distributed Software" (DDS).]

I have used Overhead Express for a month now, and I recommend it enthusiastically. The program is a cross between a word processor and a relational database program. You enter your information much like a database (I'm reminded of dBase II), and you insert control commands (similar to WordStar) within the file to create special effects like boxes, arrows, lines, symbols, font changes, etc. Overhead Express offers two main creation modes: the "Express Editor" contains twelve pre-programed "Express Templates;" and the "Custom Editor" that allows you to modify any combination of the express templates or create your own graphic display from scratch. You can also create and store your own "custom templates" for quick production of visuals in your own format.

Overhead Express offers four typefaces, each with regular and italic styles, and each in three sizes from 24 dots to 60 dots (about 5mm to 14mm). One typeface, "Modern," also has two additional sizes, 18 dots (about 4mm) and 75 dots (about 17mm). That's a selection from 32 different font choices. Each font has its own punctuation and special symbols, in addition to layout graphics like customized boxes, lines, "bullets," etc.

While preparing your visual, either in the express or custom editor, you can hit the "DO" key to create a schematic visual interpretation on your screen (if you have the graphics option) to check layout. This schematic does not produce text, but a rather

clever graphics display with characters replaced by proportionally sized polygons. It is very useful, though, to check your "program." After you create your visual program (and check it schematically), you must save the file and exit back to Overhead Express's main menu. From here you may generate the "presentation" either on your printer or first check it with your graphics screen.

By selecting "Review on Screen," Overhead Express will display a reduced version of your visual as it will appear when printed: all fonts are supported, sizing is accurate, and a neatly drawn box surrounds the graphic to show the size of your page and margins. (I wonder what the combination of Overhead Express's screen display and the Polaroid Palette would do!) This process does take about a minute for the program to load all the graphics drivers and fonts. The final step is to choose "Produce Presentation" from the main menu, in order to generate the hard copy at your printer. I wish that space in this review allowed me to include the printed results--you'll just have to take my word for the fact that they're pretty impressive.

While I haven't tried it very much, Overhead Express also provides a "Screen Presentation" mode that will animate a visual presentation on the screen without operator intervention. This is similar to the self-running demonstrations we all see at computer stores. If you plan to set up a Rainbow at some conference or exposition, Overhead Express can create and display your customized message.

The program supports a variety of dot-matrix printers, including the LA-50 and LA-100, Epson MX/FX 80 and 100, IBM graphics, C. Itoh 8510/Prowriter, C.Itoh 1550/Prowriter II, NEC PC-8023-A-C, Okidata Microline 84-II (also Microline 92 & 93), and the Apple Matrix printers. I would have wished for a device library that supported one or two of the more popular multi-pen plotters, such as the HP 7074A, but I really am grateful that BPS included as many (non-DEC) printers as they did. I hope that this broader printer library marks a trend for Rainbow software.

The manual is excellent. It's customized for the DEC Rainbow, and it's well thought-out, clear, and organized. The only negative thing about Overhead Express is that it's copy-protected: once again an example of inconveniencing the innocent. You can make one or two copies (sufficient for a backup disk and transfer to a hard-disk), but that's it. For $15, you can buy a backup system disk.

N. Jay Bassin, PhD, a writer and consultant on Enviromental Management, is the Chairman of the Washington Area Rainbow User's Group. This review appeared previously in the WARUG Newsletter.

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PRODUCT REVIEW: WORDMARC
by Caroline M. Mack

WordMarc is a user-customizable word processing program which runs on the DEC Rainbow and PRO as well as Vaxes (including the MicroVax), IBM PC and compatibles, HP 150 and the TI Professional. Formerly known as Muse, it is a powerful, versatile program.

WordMarc for the Rainbow comes with a four-part manual, a Quick Reference Guide, five disks, keyboard stick-on labels, a Function Key Reference Chart for the IBM PC (useless for the Rainbow), and separate installation instructions for the DEC Rainbow. Installation is not difficult, but it can be very confusing. WordMarc consists of more than 130 files. Many (particularly different printer files) are not necessary to operate the program. The sheer number of files could cause panic in someone uncomfortable with computers.

WordMarc is menu driven and provides a self-teaching guide with exercises to help the user get started. Users who are have experience with other word processing programs may prefer to learn

from the User's Guide which provides information in a more concise form. After WordMarc is loaded, the user types in WM, and the main menu appears:

EDIT	an existing document
CREATE	a new document
SPELL	check spelling in a document
PRINT	or review a document
MANAGE	files
GLOSS	glossary operations
AUX	auxiliary functions
LANG	language changes
EXIT	from word processing

Users who have learned the commands can choose to work without menus.

To begin a new document, the user moves the cursor to Create, and then presses Execute (the DO key). The user is given a choice of document types (the user can also add custom document types):

LETTER	format
MEMO	format
MANUAL	format
THX	format
WIDE	format (132 col)
ASCII	file format
NO	specific format
RETURN	to Main Menu

After choosing the type, the appropriate screen appears. Typically there are up to four lines of information at the top of the screen. The top line lists the name of the document, the mode, the page number, the screen number, and the current prompt (if any). The second line displays instructions related to the current function. The third line is a user response line, and the fourth line is the format line. Text is displayed below the format line. WordMarc provides a choice between 80 and 132 columns on screen, but allows a document width of up to 163 columns.

WordMarc operates in typeover mode: if the user backspaces to make a correction, he will type over the characters already there. The user cannot toggle to insert mode. Thus making changes and corrections requires more strokes than in word processing programs which allow the user to operate in or choose insert mode, where existing text is pushed forward as text is added. In addition, the delete key does not delete backward, so you must make several keystrokes to delete even a single character or space. This slows text entry.

WordMarc prompts allow the user to get in and out of files easily. After the user completes creating or editing a document, he presses FILE to get the following menu:

OPTION	select printing options
REFILE	this document as changed
NOSAVE	this editing session
SAVE	and name this editing session
ASCII	save this WordMarc document in ASCII format
WM	save this ASCII document in WordMarc format
RETURN	to this editing session

The original document can easily be replaced with an edited version, both versions can be saved, or changes can be abandoned. The ASCII and WM options allow the user to import and export files from other sources.

Choosing OPTION allows the user to set the printing options. When the user has hyphenated, added headers and footers, paginated, and merged, he can review the document on screen as it will look when it is printed. WordMarc supports a long list of printers, and allows the user to define other non-supported printers.

WordMarc is nearly a "what you see on screen is what

you get" word processor with most of the features a user would expect in an expensive word processing program: center, bold, underline, character overlay, super- and subscript (up to 13 levels, with the ability to suppress them where it makes a paragraph look messy), search and replace, a choice of hyphenation styles (soft, hard, automatic, semiautomatic, and manual), automatic repagination, right justification, and merge. Two nice features are document encryption and the ability to pop out to the operating system without exiting first from WordMarc. WordMarc also has a recovery feature which minimizes the loss of text in case of an unexpected power loss (maximum loss is 200 characters). Accidental deletions can be completely recovered if recovery is instituted immediately after they are made. Version 4.0 of WordMarc, the one tested, does not have a footnoting capability; however, WordMarc expects to add that function in the future. Some of the WordMarc functions are accomplished in an awkward manner. Page numbering, for instance, is done with headers or footers.

WordMarc functions are centered around the number and cursor keypads, although a few of the Rainbow's function keys are used. For some reason, WordMarc chose not to use some of the six keys above the cursor key in the way they are marked. All is not lost, though: if the user does not like the way WordMarc set up the keys, or prefers not to pepper keycaps with tiny plastic stick-ons, WordMarc functions can be reconfigured to other keys. The user could, for instance, move WordMarc functions to the function keys at the top (excepting Help and Do), and create an appropriate strip instead of using the stick-on labels.

The ability to reconfigure WordMarc is not limited to the placement of function keys. WordMarc includes the source code for menus, prompts, dictionaries, system, and printer definitions. The Technical Reference Guide's instructions on reconfiguring are geared toward the IBM PC, but an experienced user or programmer can edit and recompile the source code files.

The main spelling checker consists of about 40,000 words. (An additional spelling checker, available only if you have a hard disk, contains 20,000 more words.) It goes through the document and flags misspelled words; the user must use the combination of the Search and Spell keys to find the misspelled words. It is sometimes difficult to tell on screen which words have been flagged. WordMarc allows "Reverse" spelling so that the user can check backwards as well as forwards in a document. The spelling check also produces the statistics necessary to determine the document's FOG index (reading level): total word count, average sentence length, and average word length. In addition to the Main spelling dictionary, WordMarc provides the option of establishing a User Dictionary for specialized terminology, and a Document Dictionary. The Document Dictionary is meant for large documents which go through a number of editing cycles. Instead of marking the same words each time, it avoids marking specific words, terms, abbreviations, and acronyms which have already been accepted in a previous document. The dictionary doesn't check single letters, so a typo, such as "t" instead of "it", would go unnoticed; it does, however, mark capital letters found in the middle of a word or not at the beginning of a sentence.

WordMarc's Abbreviation Glossary is similar to boilerplating and macro functions in other word processing programs. Its most obvious use is for recalling boilerplate phrases or paragraphs with only a few keystrokes, but it can also be used to recall an elaborate sequence of keystrokes. By choosing Gloss from the main menu, the user brings up a menu which enables him to edit for the Glossary:

EDIT	or create a glossary item
ERASE	a glossary item
REVIEW	glossary item abbreviations
LIST	prepare a glossary item listing
LOCAL	select the local glossary
GLOBAL	select the global glossary
RETURN	to the main menu

WordMarc can be configured to provide foreign language prompts, menus, and error messages for Dutch, French, German, Italian, Spanish, or Swedish. The foreign language option, invoked through the LANG option on the main menu, must be separately installed for each language, at a cost of $45 per language.

For a word processor which advertises that it is available on mainframes, minicomputers and micros, WordMarc's lack of a simple file transfer process is baffling. Like many other companies, WordMarc has chosen to make related programs available only for the IBM PC. There are currently no plans to make a Rainbow version of WordMarc's LinkMarc file transfer program, which allows files to be transferred back and forth between IBM PCs and Vaxes.

Word Perfect's documentation is adequate, but not spectacular. It is divided into four areas: the Installation Guide, the Self-Teaching Guide, the User Guide, and the Technical Reference Guide. It lacks a comprehensive Table of Contents to pull the entire document together and make it easier to find information. The Index is short, incomplete, and located not at the end of the manual (after the Technical Reference Guide), but at the end of the User Guide (p. 155). Lack of a good Table of Contents and Index means that the user spends too much time flipping through the manual in an attempt to find necessary information.

One of the places WordMarc really shines is in its ability to include alternate characters within text. In addition to foreign language symbols, WordMarc will allows the user to type complicated mathematical formulas into the text, see them on screen, and then print them out. This facility requires an alternate character ROM. Two are available: WordMarc supplies a ROM which corresponds to the Diablo ECS Elite 12 Scientific printwheel, and DEC, the DEC Technical chip, which corresponds to the LA100 Symbols 10 character set. WordMarc's ROM is $.

WordMarc's literature states that it requires MS-DOS and 256K RAM for the Rainbow, but it is a huge program which resides more comfortably on a hard disk. (In fact, a hard disk is required in order to use the 20,000 words in the "Additional Spelling Disk.") WordMarc for the Rainbow is not copy-protected, so installing to a hard disk is fairly simple. The Rainbow version of WordMarc is $; the Pro version, which requires the P/OS operating system, is $. Updates are $ each. Discounts are available for quantity purchases. WordMarc charges $ a year for technical support on its toll-free hotline. WordMarc is available from Marc Software International, Inc., 260 Sheridan Avenue, Suite 200, Palo Alto, CA, 94306, (415) 326-1971.

WordMarc's extreme flexibility is great for the user who is prepared to take advantage of it, but the program is frequently awkward to use. For those who need a word processor which can handle special symbols, or those who want prompts, menus, and error messages in languages other than English, WordMarc may be an excellent choice. WordMarc may also be a good choice for those who need to transfer documents to a wide variety of different computers. For users who prefer a word processor which is easy to use and economical on keystrokes, WordMarc may not be a good choice. WordMarc offers an unusual option for users who do not whether WordMarc will suit them: a one month trial package, including all documentation, for $.

(c) 1985 by Caroline M. Mack

PRODUCT REVIEW: WRITER'S PACK
by N. Jay Bassin

Say what you will about WordStar; a real cottage industry exists out there writing supplementary software to be used with that venerable (if somewhat obsolete) word processor. The folks at Digital Marketing (2363 Boulevard Circle, Walnut Creek, CA 94595; 415/947-1000) have packaged a set of six such programs, written by three different sources, into one product. Writer's Pack includes Footnote, Pair and Bibliography (Protem Software); The Random House Proofreader and Grammatik (Wang Electronic Publishing); and Index (Orthocode Corp.). Each of the programs pretty much stands on its own (remarkably, some of them are even incompatible with one another!), and are designed to supplement the capabilities of WordStar, Select, and other CP/M word processors. I will give a brief overview of all six, and then discuss in some detail each of the programs. My personal favorite of the bunch is Proofreader. Writer's Pack [$; CP/M-86/80 or MS-DOS; 64k] includes five diskettes and an effective manual.

As its name implies, Footnote is a utility that numbers and manages the placement of footnotes. It is fairly easy to use, and allows placement of notes either at the bottom of the proper page or collected at the end of the paper. A particularly nice feature is its ability to run footnotes over several pages. As footnotes are added or deleted, the program automatically corrects the numbering. For someone who uses footnotes extensively, this is a very handy program. Pair is a companion to Footnote only in the sense that it appears on the same disk. Pair checks a WordStar file to ensure that paired control characters (such as bold and underlining toggles, etc.) or parentheses, quotation marks, or brackets match.

Bibliography is a library utility that checks a WordStar file for embedded "key words," matches those key words to entries in a separate (user-created) master bibliography, and constructs a document bibliography of all names cited. There are a number of different formats which may be selected. If you're into literature citations in a big way, give this program a good look.

Grammatik bills itself as a "grammar checker" and "beyond a spelling checker." It checks for common typographical errors such as a "STicky sHift key," doubled words ("the the"), and proper punctuation. It will check WordStar files against two included "phrase dictionaries" that contain about 600 wordy, awkward or sexist phrases and suggest alternatives. Finally, Grammatik will display a summary table for your document, listing the number of words, sentences, problems detected, the average sentence length, etc. My advice here is to read the phrase dictionaries to see if you are likely to use any of the poor constructions. If not, this program is probably not worth the time.

Index reads a WordStar document file into which you have embedded special "dot commands" and creates an index and/or table of contents of these key terms. The index and table of contents are written to separate files for subsequent editing or printing. The manual for Index is the most confusing of the series, and a WordStar file prepared for indexing may generate problems if you try to use the Footnote program on it. Index does produce nice-looking indices and indented, nested tables of contents. A unique feature of the indexing program is its ability to cross-reference key words. However, it takes a lot of work and thought to place index keys in every instance where a word should be cited. How many 20-page reports do you see with a complete index? If you're writing a text book let your publisher index it on a mainframe.

The Random House Proofreader

The Random House Proofreader is an excellent dictionary program. I used to think that I hated dictionary utilities because my writing is often very technical and the usual spelling checkers

with 30,000 words or so seemed to stop every other sentence to ask about such words as "precipitation." I was therefore quite pleased with the results from Proofreader I saw in a test run on a 5,000 word technical paper. The Rainbow version contains a giant dictionary of over 84,000 words, one of the largest I have ever seen. It is remarkably fast, much quicker and more precise than either MicroPro's SpellStar or the spelling checker in WordPerfect. The program works on ASCII files as well as WordStar, and generally recognizes the "soft hyphens" and soft carriage returns in the word processing file. Unless you install it on a hard-disk, you will have to switch diskettes to use it; Proofreader takes 234KB of disk space in five files, including 182KB in the dictionary file alone. Proofreader is written for CP/M-80 and therefore may not be accessed from within WordStar version 3.xx with the "R" command from the main menu; you must initiate the program from the CP/M prompt. For the same reason, it cannot be transported to DOS and used with AME86.EXE, although WordStar itself can be.

Proofreader is quite easy to use. Assuming the program is in drive A and your document "FOO.TXT" is in B, simply type "PRF B:FOO.TXT<cr>. Proofreader immediately reads FOO.TXT, displays the total number of words and the number of unique words, and sorts the words alphabetically. For a document of over 1000 unique words (perhaps a 5000-6000 word document), this sorting may take up to ten seconds. After sorting, Proofreader checks each unique word against its master dictionary (PRF.DIC). The 80,000+ word dictionary takes about three minutes or so. Proofreader then searches an auxiliary dictionary (PRFDIC.AUX) that is user-created. (PRFDIC.AUX comes ready-supplied with all the WordStar dot-commands and control characters.) The auxiliary dictionary will normally grow automatically with use of Proofreader. After checking through the dictionaries, Proofreader will display the number of "unknown" words it has found, and will offer a menu for continuing. While you can just dive in with option "C" and correct words in context, I suggest that the first step normally be option "R"--reviewing each "unknown" word in sequence, but not in context. That way, many unknown but correct words such as proper names or intentional misspellings can be eliminated. As each word is displayed, you may acknowledge that it is incorrect or type "N" to indicate it is not correct. After this run, control returns to the main editing menu. If you then type "C" to correct questionable words in context you will get another menu with 7 choices: (C) correcting the word; (D) asking for dictionary assistance; (L) accepting the word and adding it to the auxiliary dictionary; (A) accepting the word for just the rest of the document; (I) ignoring the word just this time; (Q) aborting the session without saving any changes; and (E) exit and save all changes so far. Proofreader has some pretty nifty features in its correction routine. First is the fact that unknown words are displayed in context of two lines of text, so there is no doubt about what you meant. Another is that a correction itself is checked against the dictionary to make sure you don't compound the error. Run-together words ("theonly") can be corrected and words may be deleted by just hitting RETURN. Finally, all subsequent identical errors are automatically corrected! Proofreader will make corrections to the file and generate a ".BAK" file containing the original document.

What won't Proofreader do? For starters, it won't re-form a paragraph if, for example, the document was right-justified. You will have to go back to WordStar and reform with the ^B. If you are working with a justified document, you can select one of two other options that will just "Mark" unknown words (with an "#") for later searching. For another, it ignores punctuation errors, case ("lake Erie" will pass), unpaired quotation marks, parentheses and brackets, and doubled words. It won't catch improperly hyphenated words or word-pairs. Finally, and most awkwardly, it doesn't recognize "soft hyphens" where they occur at the end of a double-spaced line. All-in-all, I think that The Random House Proofreader rivals the best spelling checkers available. If all you need is a speller, try to get this one without the package deal.

Footnote

As its name implies, Footnote is a utility that numbers and manages the placement of footnotes. It is fairly easy to use, and allows placement of notes either at the bottom of the proper page or collected at the end of the paper. A particularly nice feature is its ability to fun footnotes over several pages. As footnotes are added or deleted, the program automatically corrects the numbering. Pair checks a WordStar file to ensure that paired control characters (such as bold and underlining toggles, etc.) or parentheses, quotation marks, or brackets match.

Footnote (CP/M-86, 64k) runs with two files: FN.CMD is the actual program, and OPTIONS.FN contains a user-changeable overlay that defines function keys and control-commands used by FN.CMD and PAIR.CMD. (Because FN.CMD and PAIR.CMD are written for CP/M-86, they may be called from the WordStar main menu with the "R" command and/or transported over to MS-DOS and used with AM86. If you use Footnote often, it would be advantageous to install it on your WordStar disk.)

Footnote works by marking "calls" in the text wherever you want to refer to footnotes with the symbol "@." As you type your manuscript, you delineate text areas from "note" areas with familiar WordStar non-printing controls embedded in the text. (You may enter the footnote itself either in the text as you go along or in a separate file.) If the notes are within the textfile, notes are delimited by a "^R" and a ".PA" on the left margins, with the consecutive notes between marked with an "@." As a result, page layout (as measured by WordStar's page numbering on screen) is confusing. A more important factor is that a WordStar text file with embedded Footnote commands cannot be printed cleanly except after completing the "format" procedure. After saving the WordStar file, you run Footnote in order to consecutively number and match each "call" to its note. The opening menu offers six choices: N)umber notes; F)ormat footnotes in a textfile; R)emove notes from the textfile to a separate endnote file; M)erge endnotes into the textfile; C)hange options; and eXit to the system.

The first step is to N)umber the notes and calls to ensure that they match. After doing so, you may re-enter WordStar to check, but Footnote will let you know how many notes it created. If you created a textfile with included notes, you may choose to R)emove the notes to an endfile, or conversely you may choose to M)erge the endfile of notes into the textfile. If you want footnotes formatted at the bottom of the proper page, you must then F)ormat the document before you can print it. In formatting, Footnote creates a temporary working file on the disk that contains the textfile. You must therefore ensure that the disk is neither write-protected nor too full. After formatting, Footnote has created and saved a print-ready document that uses soft carriage returns to "design" each page. It marks each page with a ".pa" that WordStar uses to define a page-break, and fills in any space between the notes and the bottom of the text with carriage returns. Fortunately, Footnote creates a ".BAK" file from your non-formatted textfile. Footnote allows you to select any of three numbering schemes: Superscripted[1]; superscripted and underscored[2]; or just underscored and slashed.[3] You also have a separate choice over how the numbers will appear in the notes.

If I used footnotes regularly, I would really like this program. It's better than the footnoter in version 3 of WordPerfect, and for some additional work in preparing the manuscript, produces professional-looking page layouts. However, it will only work with WordStar (and maybe Select) files.

Pair

Pair reads WordStar (and maybe Select) textfiles, locates any control character (such as ^S or ^B) or text markers--(,),[-,],<,>,"-and tries to match them to a counterpart. If there are any unpaired marks within 200 characters (changeable by the user), Pair marks the 200th character with a ")" (also changeable) that

you will have to search for using WordStar's global search function. Pair must be configured to search for each mark. In other words, if it's set for ^S (underline), it will not find a missing quotation mark. It can get a bit tedious to run the program a dozen times, reconfiguring each time, just to check for pairs. Realizing this, Pro/Tem included directions for creating "batch processing" commands as a "submit" file in CP/M. By following their instructions, you can create a command file that will search for any number of markers. The catch, though, is that it will search for only one at a time, from beginning to end, and then repeat with the next. Pair ain't worth it.

Bibliography

Bibliography is a library utility that checks a WordStar file for embedded "key words," matches those key words to entries in a separate (user-created) master bibliography, and constructs a document bibliography of all names cited. If you do a lot of technical writing with citations to other authors or references, this is for you! The most striking feature about it is its "database" format for the master bibliography. While you can create any number of separate bibliographic files, you can also put your entire reference library on one file, and write any number of separate papers all drawing from the master file! Where was this gem when I was in graduate school? The first thing to do is to create a bibliography (using WordStar or any word processor). Each entry begins with a "%KEY:" heading that identifies a unique "keyname." This keyname will be used in your manuscripts to call this particular citation. The bibliographic entry continues with additional user-defined headings (e.g., author, date, title, publisher, etc.) and an "%Annot:" or comment header that could contain a short abstract. Each entry (record) ends with a "%:".

When you're writing your paper, you include a reference to the appropriate bibliographic record with a citation such as "%Einstein, 1905". The citation is identical to the matching keyname heading in the bibliography except that it begins with a percent sign and ends with one of these four characters:), %, :, or ;. Thus, all of the following citations will match the keyname "Einstein, 1905":

```
(Einstein, 1905)
%Einstein, 1905)
%Einstein, 1905: p. 235
(%Einstein, 1905;
As Einstein (1905) wrote...
In Einstein's (1905) paper...
```

Bibliography's menu will display the current settings for nine separate functions. For example, you can choose to omit the annotation from the list of references (probably a good idea); number each entry in your list of references; alphabetize your list of references; etc. Once your settings are correct, you hit RETURN and type in the name of your article, the name of your library file, and the name of a new file to contain the sorted list of references. This last file may then be merged into the end of original text file if you wish. If you embed a keyname that is not contained in the library, Bibliography will create another file called "CANTFIND.BIB" with the missing citations. With Bibliography you have quite a choice over format for your list of references. Rather than try to list them all, I'll just say that every journal style I'm familiar with is included, from alphabetical to consecutively numbered. After you finish modifying your paper and are ready to print it, run Bibliography one last time to remove the "%"s embedded in the text. (You can also do a global search/replace to delete the symbols within WordStar.) Bibliography will create a ".BAK" file each time it modifies the text.

As if this weren't enough, Pro/Tem includes in the diskette three additional utilities: SORTLIB.CMD, MERGEBIB.CMD and LISTKEYS.CMD. SORTLIB alphabetizes your master bibliographic library. This means you can add records anywhere and sort the

whole thing. Pro/Tem says that with 128k of memory, you can sort about 1200 entries. MERGEBIB creates a single alphabetized bibliography from a number of different bibliographies; for example, if you wanted to merge separate chapter bibliographies into a single bibliography for the whole book. LISTKEYS generates a list of all keynames in in library. Bibliography, written in CP/M-86, can also be run from the WordStar opening menu and it is compatible with AME86. The manual is pretty clear--certainly above average for this type of product. My conclusion is that this program is a winner!

Grammatik

Grammatik bills itself as "beyond spelling checking;" a "system that checks for typographical errors and analyzes writing style." Grammatik reads WordStar (or ASCII) files and searchs for words or phrases listed in user-changeable dictionary files. In addition, it checks for proper capitalization (for example, the first letter of the first word after a period, or a "sTicky shiFT" key), paired punctuation marks (),"",'',[],{}, and doubling of words or punctuation such as "the the" or ",,". Naturally, the program assumes that the words are all spelled correctly to begin with.

The distribution disk comes with six separate files: GMK.COM is the main document analysis program; PHRASES.GMK is the main phrase dictionary; SEXIST.GMK is an auxillary dictionary of "sexist," or gender-dependent, words; PROFILE.COM is a separate program that will list each separate word in the document together with the number of times it's used; SORTDICT.COM, a utility that alphabetically sorts phrase dictionaries (or any ASCII file with records on separate lines); and SAMPLE.TXT, a demonstration file.

Grammatik's main menu lists 12 choices to configure the program's run. Each execution must have the name of a phrase dictionary and the name of the document file; Beyond that, the user may select the method of error listing, output file, or categories of errors to exclude (if desired). Multiple phrase dictionaries may be "read in" to memory. Each time Grammatik matches a poor sentence construction, it stops(if desired), displays the offending word or phrase together with the sentence number (if desired), category of error ("redundant," "wordy," etc.) and, optionally, one or more alternatives. If an output file has been named, errors will be marked with an "?#e", where "e" represents a one-letter symbol for the type of error. Grammatik won't allow you to correct a sentence interactively. At the end of the run, Grammatik will display a summary table listing the number of sentences, number of words, average sentence length, average word length, number of questions and exclamations, the number of sentences with fewer than 14 words or more than 30 words, the shortest and longest sentences, the number of prepositions, and the number of sentences with conjugations of the verb "to be." I leave it to you to decide whether these statistics are useful.

How well does Grammatik work? I modified the SAMPLE.TXT file to throw in some additional errors similar in type (but not identical) to those already there. Most of the poor constructs I added (my favorite was "...like, for instance,...") were not picked up because they were not explicitly listed in the phrase dictionaries. This leads to the software's biggest failure. Grammatik does not know the meaning of any words. It only recognizes poor construction if that exact phrasing is located within a dictionary. If you are unaware that "...like, for instance,..." is redundant, Grammatik won't catch it because it's not in the distribution dictionary (which contains, by the way, about 500 phrases). If you are aware of that, you probably wouldn't be using it in the first place. Unlike a spelling checker that questions anything it doesn't recognize, affording you the opportunity to correct it or to have the dictionary "learn" the new word, Grammatik will not question anything it doesn't recognize! Grammatik cannot recognize subject-verb agreement ("I doesn't think so") or even whole sentences ("Works with text files too."). Grammatik is also supposed to check paired punctuation marks. In the 10-sentence test document I tried, there were three intentionally unpaired quotations and parentheses. The program picked them all up, but failed to

properly identify which sentence they were in: all three were attributed to the last sentence (which, coincidentally, did not have any unpaired punctuation at all)! Grammatik is written for CP/M-80, so it cannot be accessed with the "R" command from WordStar's main menu.

For the same reason, it is not compatible with AME-86, in case you're happily using WordStar under MS-DOS. My recommendation is to give Grammatik a miss.

Index

Index reads a WordStar (or ASCII) text file into which you have embedded special command strings that identify key words and creates an alphabetized index and/or table of contents of these key words. In theory, it sounds great. In practice, like other programs in this package, the return may rarely be worth the investment of time. Index, like Grammatik, is written for CP/M-80 and also may not be used from the WordStar menu or from AME86. Because Index treats table-of-contents generation quite differently than index-creation, I will discuss them separately; tables of contents first:

Index uses, as its primary embedded controls, WordStar-like dot commands with three dots. WordStar interprets any line beginning with two (or more) dots as a non-printing comment. When generating a table of contents, you are instructed to put a "...T" command in columns 1 through 4 of the line immediately above the line to be entered in the table of contents. Any WordStar printer controls (such as ^B for boldface) are legitimate in Index also. The table of contents can have indented minor headings if you choose, up to 16 levels. For example, if you have a bolded heading ^BINTRODUCTION^B that you want in your contents table as a third-level subheading, you would type "...T3" at the left margin of the line immediately above the heading. Index will automatically collect all such headings, note the page number each is on, and generate a text file with the formatted table of contents. It gives you a wide selection of formats to choose from and customize. There is one catch, though it's a minor inconvenience: the table of contents heading must be alone on the line. If you format your text with a minor heading that starts a line of text, the entire line will end up in your table of contents and you will have an editing job on the generated table of contents file. Similarly, if your heading is underlined or bolded as in the example above, and you do not want the word underlined or bolded in the contents, you will have to edit the output file. If you use tables of contents, this little program is relatively easy and does pretty work. Since the 3-dot commands are compatible with WordStar, you lose no flexibility in just using Index for tables of contents.

Index's index provision, the primary purpose of the program, is about as straight-forward. However, the accuracy and thoroughness of the index is entirely dependent upon the user, not the program. This means that you will have to mark every single instance of a particular term throughout the document; all Index does for you is to keep track of the page numbers. In practice, the text file is edited to insert index calls either above or below the paragraph containing the word to be indexed. The index call also uses a three-dot command, in the form "...X text" where "text" stands for the word or phrase you want indexed. In this most-simple case, Index will create an alphabetized list of your calls together with the page number that the call is on. For example, if you have a paragraph discussing computers on page 4 of your document, you could put the command "...X Computers" above the paragraph and "Computers, 4" would appear in your index. If you also had that same call next to a paragraph on page 8, the index would show "Computers, 4, 8". If two or more index calls exist on one page, Index will list that page only once. The calls must be preceded and succeeded by hard carriage returns so as not to loose their place on the left margin during paragraph reforming. For this reason, the calls must not fall within a paragraph or else the paragraph cannot be reformed after text editing. It's important to realize that Index does not "recognize" the key

words: It will not automatically index every subsequent use of the terms "Computers" unless you type the same call into every page where the keyword exists. In revising long paragraphs, it is easy to end up with a call on the page before or after the one with the actual use of the word. In this case the index will be misnumbered. Frankly, I found it extremely tedious and irksome to insert index calls at every paragraph a key term is used. I don't know why Index couldn't have just been made to "remember" key words once, and automatically index every instance of them.

Index allows nested, multi-level entries. For example, if you discussed Rainbows on page 6 and a VAX on page 9, you would insert a call of the form ".I Computers, Rainbow" and ".I Computers, VAX" in the appropriate places. Your index would look like this:

```
Computers, 4,8
   Rainbow, 6
   VAX, 9
```

Index allows up to eight nested levels in this fashion. Index also provides separate calls for "reference" entries that produce an index line such as

"Micro-computers, see Computers, Rainbow," or

"Z80 Processor, see also Computers, Rainbow."

Because these reference entries are not page-specific, you need insert the calls only once anywhere in the document.

Index does quite a lot, but in a very labor-intensive way. It produces nifty looking contents and indices, but let's face it: few of us write documents long enough to require an index. If you're writing a 400 page text book, I think you'd go blind before putting in all the necessary calls. Let your publisher do it with his mainframe typesetting computer.

Summary

To recap this review of Writer's Pack, I really like Proofreader and Bibliography. Footnote is a very good program for someone who does a lot of footnoting, but is too complex to bother with if you have only one or two footnotes. I would use Index solely for its table-of-contents provisions and ignore its indexing capabilities. Grammatik and Pair (which comes on the Footnote disk) are not very useful at all. A quick call to Digital Marketing's help line confirmed that each of the programs are available separately: Proofreader for $, Grammatik for $, Bibliography and Index for $ each; and Footnote and Pair together for $. The bundled price of $ is a savings only if you can use all the programs. If you skip any two (and I urge you to skip Grammatik), you can get everything else individually for less!

This review appeared previously in three parts in the WARUG Newsletter.

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PRODUCT REVIEW: INVESTMENT MANAGER
by Ken Gordon

Have you ever wanted to use your Rainbow to analyse and manage your investments in stocks, bonds, and other financial securities? There is now a program available for that purpose which runs on the DEC Rainbow using MS-DOS (requires 128K memory). I have recently tested Investment Manager, the only Rainbow version of an investment program that I am aware of.

Investment Manager is a portfolio management program designed by the Walton Group of Boston, and distributed by International Microcomputer Software, Inc., (IMSI), 633 Fifth Avenue,

San Rafael, California, 94901, (415) 454-7107. The list price is $. which is tax deductible if you use the program to manage revenue producing assets.

Although the program was designed for professional investment managers, with full capabilities, it is feasible, although perhaps expensive, for individual investors as well. As an alternative, you can design programs with similar functions using general database programs such as dBase II or Lotus, but it is certainly convenient to have standardized menus, pre-formatted reports, well-tested routines, helpful documentation, and built in communications utilities. If you want to analyze the historical behavior of the stock market to help make investment decisions, you will need a different type of program, usually known as analytical programs.

You start by entering information on each stock, bond, money fund, mutual fund, or other securities in your portfolio into the database. The program asks for name, amount, ticker symbol, date purchased, original cost, and current value. This is done only once for each item. As you make new investments or sell them, you enter them into the database. Whenever you wish, you can enter updated quotes and dividends which modify the existing values (I'll discuss automatic updates later).

The program provides for five reports, which you can display or print at any time. The reports provide the status and performance record of each security, and of the portfolio as a whole. The reports offer an up-to-date valuation, the results of calculating several performance measures (such as rates of return and impact rankings), and lists of appropriate transactions for annual tax and audit purposes. The reports allow investors to compare the performance of their investments with alternative investments, or with the market as a whole. Investment Manager will handle multiple portfolios, and a wild card symbol allows you to combine several portfolios in a single report. For example, you can keep stocks owned by your spouse and children in separate portfolios, but request the the family's securities be combined in a single report.

I particularly liked the automatic updating feature. To use it, you will need to have a modem, and to establish an account with one of the financial data services (I used Warner Computer Systems Data Services). You can use the built-in communications utility to dial-up the service, automatically look up the quote for each security in your portfolio, modify your database, and hang up. Once I became used to the process, it took only 30 seconds at 1200 baud to update a portfolio with about two dozen securities. During non-prime time, the cost was about $1.00 for the data service, plus a 30 second telephone call to New York City. That sure beats looking each security up in the Wall Street Journal and doing a lot of multiplying and totalling. If you like to "count your money," you can update weekly, or even daily. Warner Data Services includes daily quotes for everything reported in the Wall Street Journal plus several thousand bonds.

The advertisements for this program stress one feature I found less than useful: the ability to handle Beta values, which is a ratio indicator designed to quantify each particular security's volatility, or the riskiness. Only a few sophisticated analysts will find Beta values useful. The rest or us can simply ignore them without affecting the other capabilities of the program.

You will need to be creative to use some of the capabilities the program provides to handle some financial situations you encounter. For example, if you want to use the calculations of compounded rate of return, you must enter all of the dividends or interest you have received since purchasing the security (which could involve a number of years). The program cannot handle a situation where you have your dividends reinvested, or they are used to buy more stock, unless you periodically increase the number of shares owned manually, or you create a new purchase entry covering additional shares.

There are several operational aspects I should mention. The program is not copy-protected, so you can put it on your hard disk without difficulty. The speed of operation was excellent when

using my hard disk. In the original disk I received, the loading/installation function did not operate, but a call to the distributor brought a subsequent version that did operate. When I called later to find out what data the automatic update program required for bonds, I was referred to Robert Walton, the program's designer, who graciously sent me an enhanced version of the communications program. It appears that enhancements to the program continue to be made. Although there is no toll-free 800 number, adequate technical support is provided. I found the user's manual poorly arranged and less complete than is desirable. For example, the significant feature which allows you to combine portfolios is only described briefly at the end of another topic, and it is not indexed at all.

In summary, Investment Manager is a worthwhile program which functions well for those who need to monitor a portfolio of securities. Because you will need to enter data on your own portfolio and to set up accounts/procedures for automatic updating, you should expect significant front end effort before reaching the operational stage. However, the automatic updating feature is one of the plusses of the program. The greatest minuses are the mediocre documentation and the relatively high price. Given the limited number of proprietary programs adapted for the Rainbow, we should appreciate this effort. If Investment Manager meets your needs, I urge you to use it.

Kenneth Gordon, PhD., is an economist with the United States Government Bureau of Standards, and is the co-founder, with his wife, Dr. Barbara Gordon, of the Washington Area Rainbow User's Group.

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PRODUCT REVIEW: DO-IT
by Dennis K. Fitzgerald

What is Do-It? Do-It is a program to enhance the usability of your Rainbow. With Do-It, you can suspend the program you are running, perform one of several functions, and then return to your original program where it left off. The functions include a notepad editor, a calculator, save screen, print screen, terminal emulator, and the ability to run one or more MS-DOS commands or programs. You install Do-It by running the DOIT command once each time you reboot your system. (Most people put the DOIT command in the AUTOEXEC.BAT file.) To invoke Do-It, you just type CNTR-SHIFT-ENTER.

Notepad

The Do-It Notepad allows you to edit a single screenful of text. It can be invoked through Do-It or run as a stand-alone program. When you invoke Notepad through Do-It, the screen contents remain just as they were before Notepad was invoked. This allows you to include text from your application screen as part of your "note."

Notepad support Rainbow screen capabilities such as bold, blink, underscore, and reverse video. Double width and double height characters are also supported. The screen can be set to 80 or 132 columns. Notepad also supports the line drawing character set. It allows you to save the screen image in one of two modes: an Image mode that supports all character and line attributes, but is readable only by Do-It, and a Text mode that supports only ASCII text. You can thus save the screen image in whatever mode is most appropriate to your needs.

Notepad makes extensive use of the Rainbow function keys. In particular, PF1 through PF4 and F17 to F20 are used to turn character and line attributes on and off, and the numeric keypad is used to enter line drawing characters. When entering line drawing characters, you can select the direction that the cursor moves following each character. This makes it easy to draw vertical lines or to draw a horizontal line from right to left.

Calculator

The Do-It calculator uses the Rainbow numeric keypad to emulate a Reverse Polish Notation (RPN) calculator. this type of calculator has an avid following, but can be confusing to someone who is not used to it. To add two numbers with this type of calculator, you type the first number, hit the Enter key to put it on a stack, type the second number, and then hit the "+" key to add it to the top of the stack. I personally prefer the more-familiar infix notation where you type the first number, the "+" key, the second number, and finally the "=" key.

When the calculator is active, the screen shows a picture of the calculator with each of the keys labeled. Each key has two meanings with the PF1 key acting as the prefix key (a usage that is familiar to users of other DEC systems and of the WPS and EDT editors). The calculator supports a stack of four numbers, a data entry area, and one memory. One advantage of this calculator over a real, hand-held calculator is that the contents of the stack and memory are displayed on the screen at all times. Functions include the usual =, -, *, /, and %. In addition the calculator supports 1/x, square root, and square functions. Memory functions include store, recall, clear, add to memory, and divide memory, by display value. Stack functions include roll, exchange, enter, change sign and clear. A special function is provided to specify the precision of the display. Another function, Undo Last, allows you to recover from an erroneous operation. The Help key provides an expanded explanation of each key.

I find this calculator sufficient for my needs, but other users have complained that it needs more functions (eg., sine, cosine, etc.) to be more useful. My suggestion to someone who needs these extra functions is to get GW-BASIC or something equivalent and run it as a second application using the "Run a Program" option from the Do-It menu.

Save and Print Screen

The Save Screen function allows you to save the screen to a disk file for future use. As with Notepad, the screen can be saved in Image mode (with attributes) or in Text mode (ASCII only). I use Save Screen when I am generating user documentation for programs. When I want an example of what the screen looks like at a particular point in the program, I just use Do-It to save the screen in Text mode. It is then a simple matter to include the text file in my program documentation. Save Screen is available from the Do-It menu and also can be invoked within Do-It Terminal and Notepad using the F4 function key.

The Print Screen function allows you to print the contents of your screen on the printer. The only fully supported printers are the DEC LA50 and LA100, but any printer should work except when double width characters and/or line drawing characters are present on the screen.

Terminal Emulator

The Do-It Terminal emulates a VT102 terminal with the added ability to save the text of your terminal session to a file or the printer. A key feature of the emulator is the use of a buffer between the communications port and the display. This buffer stores all undisplayed data (within the limits of the memory you allocate to the buffer when Do-It is installed) even when you are not in terminal mode. This allows you to start a terminal session, return to your application, and then return to the terminal session. You can then display or save the contents of the buffer. You can also save the contents of the screen to a file. Printer echo can be turned on/off using the Addtnl Options function key.

Command/Program Execution

Probably the best feature of Do-It is the ability to run an arbitrary program or programs and then return to your original

application. Do-It provides two menu options to support this feature: the "Run a Program" option to execute a single command, and the "MS-DOS Command" option to execute a series of commands. In the latter case, you type the MSDOS EXIT command to return to Do-It and your original application.

General

Do-It has on-line help for all Do-It functions. Help is invoked through the use of a series of screens that can be sequentially or randomly accessed. the help screen were created using Notepad and can be customized and/or extended very easily. a two-page help screen is provided that includes an ASCII table with decimal, hexadecimal, and octal equivalents of each standard 7-bit ASCII character. Unfortunately the table has several (more than ten) typographical errors. It was easy to correct the two help files using Notepad, but I expect better from an otherwise high quality product like Do-It. (The two corrected help files, HDI.T and HDI.U, are available through the WARUG bulletin board and will be available in the WARUG public domain library.)

Do-It comes with an excellent 65-page User's Guide. It is well written, accurate, and makes good use of typographical elements such as size, font, and emphasis to make the guide easy to read and interpret. It includes detailed instructions on installation of Do-It which should be carefully read. For those who can't wait to try out their software, Chapter 2, Off to a Fast Start, provides enough information to get you started. But follow the instructions exactly, including running Do-It from a floppy, until you have read the installation instructions. There are separate chapters on each of the functions, a chapter on customizing the help files, and a chapter that addresses possible problems. The guide has a table of contents, but no index.

Do-It works on any Rainbow 100 with at least 256K of memory, but because Do-It takes up 50K for its resident portion and needs an additional 65K to run Notepad and the calculator, you end up with less than 128K left to run your application programs. Since I've upgraded to 896K, I allocate 256K to a RAM drive, 128K to MS-DOS and Do-It, and split the remaining memory into two 256K partitions. One of these is used to run my primary application and the other is used by Do-It when it runs Notepad, the calculator, or a second program. I can highly recommend Do-It in such an environment, but hesitate to recommend it for a 256K system unless you run small (128K or less) programs.

Do-It requires MS-DOS 2.05 or 2.11, and about 207K of disk space (244K on a hard disk because files on the hard disk have to be multiples of 2K bytes). The four .EXE files that make up Do-It require 82K (84K on hard disk). The twenty help files use up an additional 125K (160K on hard disk). If disk space is a problem, some or all of the help files can be left off.

Make sure you get Do-It version 1.03 or higher. Earlier versions had a "feature" which prevented you from putting any commands after the DOIT command in your AUTOEXEC.BAT file. This caused a problem for me since one of the public domain programs I use interacted badly with Do-It unless it was installed after Do-It. Until I got version 1.03 I had to run the public domain program (SEARCH) by hand each time I booted the system.

Sometimes when you invoke Do-It, it sends a carriage return to your application (or to MS-DOS) when Do-It exits. According to VuSoft, this is an unavoidable feature of MS-DOS. That is, when your application is waiting in MS-DOS for a character, Do-It cannot get at MS-DOS to file input or output unless the character input request is satisfied. This does not happen with all applications, and is not too serious in many cases as long as you are aware that it is happening. (It happens when I am using my favorite editor--I get an unwanted new line each time I use Do-It.) I can think of situation where it would be disastrous, however, and would like Do-It a lot better if this problem did not exist.

You should also be careful when using Do-It to run another application program. while in the middle of typing this review into my word processing application program, I decided to do some

additional evaluation of the Do-It Terminal emulator. So I invoked Do-It, typed "R" to run a program, and then ran my autodialer program. I intended, once the phone number had been dialed, to return to my document, and then invoke the Do-It Terminal program. My autodialer program, for reasons which have nothing to do with Do-It, occasionally hangs up the Rainbow so that I have to reboot to get it going again. This is annoying, but ordinarily not a major problem--EXCEPT when you use Do-It to run the program from the middle of a word processing session. Of course, it had not occurred to me that this might happen, and I had not saved the last set of changes to the review. Fortunately I had been expirimenting with the Do-It Print Screen function and had printed about half of the new material before clobbering everything. The moral here is that, while Do-It was not at fault in any way, it made the consequences of my error much more serious. I recommend that you save whatever you are doing, if possible, before using Do-It--just in case.

VuSoft plans to continue support for Do-It on the Rainbow and that the next version will probably include the addition of file transfer capabilities to the Do-It Terminal.

Conclusion

Do-It is a welcome addition to the software available for the Rainbow. While it is slightly expensive compared to similar products for the IBM-PC, it is, at least, available. Except for the problem with sending a carriage return to your application in certain circumstances, it is an excellent product. The more I use it, the more I like it, and the more uses I find for it. I can recommend Do-It to anyone who either has much more than 256K or who only runs 128K programs. I congratulate VuSoft on a good, well documented, product. Do-It, which was written specifically for the Rainbow, lists for $ and is a product of Vu-Soft, 248 Tower Road, Lincoln, MA, 01773, (617) 259-0666, and is also a DDS (Digital Distributed Software) product.

This article originally appeared in the WARUG Newsletter.

(c) 1985 by Dennis Fitzgerald

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WHATEVER HAPPENED TO CONCURRENT CP/M?
By Willett Kempton

A Brief Review of Concurrent CP/M

Concurrent CP/M is a multi-tasking operating system for the Rainbow. It allows up to four programs to be run at one time. When only one program is running, it will run approximately at the same speed as under CP/M-86/80. With two, and especially three or four CPU-intensive programs active, slowdown can be noticeable. On the other hand, a disk-intensive program and a CPU-intensive program can run at the same time with little slowdown of either. Similarly, a modem program can be downloading through the comm port while you run another program, with each running at essentially full speed. The only comparable facility MS-DOS is printing while running other program. Unlike MS-DOS background printing, CCPM does not freeze up the keyboard for seconds at a time while the other process runs.

DEC took Digital Research's generic 8088 Concurrent and adapted it to the Rainbow. Their port was excellent--probably the best version of Concurrent for any machine. For example, DEC added a "system monitor" screen which can check memory use, status, and resource use (disks, printer, comm port) of each of the four processes. From any process, a "screen print" utility can be run which will print (or save to file) the current screen of any other process. Each process has its own Set-Up parameters, so, for example, one process can be in 80-column mode while the other is in 132-column mode.

Most, but not all CP/M-86 programs will work. Notable exceptions include MAINT and RED. CP/M-80 programs will not work. High speed video works, as long as it is done via the system calls rather than via direct memory access. Graphics programs can build an image on a graphics screen while other processes run non-graphics programs.

To run multiple programs simultaneously requires the sum of the memory required for each program, plus 164K for Concurrent CP/M itself. A 256K machine cannot really utilize Concurrent, whereas 512K does quite well for moderate-size programs. The Rainbow's ability to go to 896K, rather than just 640K, becomes very useful in a Concurrent environment.

Digital Research's Technical Evaluation of DEC's Port[1]

"DRI to retail DEC Concurrent with GSX"

In cooperation with Digital Equipment Corporation, Digital Research will market Concurrent CP/M with GSX for the DEC Rainbow and Rainbow Plus personal computers. The product will be available in DRI packaging in January, 1984. DEC has provided "a very professional and sophisticated implementation of Concurrent CP/M," said Allen Beebe, director of DRI's System's Software Division. According to Beebe, DEC's software engineering team "did excellent work. Al Perron, who was engineering manager, and his staff have brought many minicomputer standards to microcomputer software with their XIOS for the Rainbow version of Concurrent." Chuck Carroll, OEM Systems manager for DRI, outlined some of the features of the DEC Concurrent. "It supports five virtual consoles," he said, "one of which can be dedicated to a system status function, so you can always switch to console zero to see what's happening on the system." The DEC implementation also passes the full 16-bit keyboard value back to the programmer, so that ISV's have complete control of the keyboard. Full VT100 compatibility is provided, including smooth scrolling and double size characters. A sophisticated set-up menu controls scrolling, character size, baud rate, and other settings. In addition, an on-line HELP function, accessed by a single stroke HELP key, functions as a tutorial on how to use Concurrent CP/M. Also, Carroll added, the implementation supports a 10 MB hard disk, up to 896 KB RAM, and provides two levels of programmable function keys: a Command level, and a Program level that allows applications to use the keys without affecting the Command level functions. Unlimited characters can be assigned to each of the programmable function keys. "From what we've seen," Carroll concluded, "the performance looks outstanding. And, interestingly, the whole thing has been reviewed by a DEC Human Factors Committee, so that, for instance, all the screen have been designed for a consistent appearance. How many microcomputer software companies have a Human Factors Committee that pays attention to details like that?"

Distribution of Concurrent CP/M

For reasons which have not been publicly announced, DEC declined to market Rainbow CCPM. They instead returned it to Digital Research and asked them to distribute it. From several phone calls to Digital Research and DEC at the time, my impression was that Digital Research was not anxious to market it, and wanted to just license it to hardware OEMs, (like DEC) and let them sell it. After several months, Digital Research began distribution, but never advertised the product. I have never seen a review in a DEC magazine. The only way any DEC user could even know it existed was by the tiny print in an occasional mail-order house's ad.

Not surprisingly, sales were slow. Digital Research announced in spring 1985 that they would discontinue the product. Ironically this occurred just at the time that open-market prices of 256K RAMs dropped dramatically, allowing many more Rainbow users to buy the memory needed to utilize Concurrent CP/M.

In late May and early June, I made several calls to Digital Research to confirm the rumor that they were discontinuing distribution. Several messages were never returned; their current hot new product is GEM, and Concurrent CP/M (for any machine) is low priority. ON 12 June, Judy Merbis, Director of Corporate Communications, called. She verified that DRI had decided to drop the product. She explained that Digital Research incurs costs in listing and maintaining a product, that each separate disk format requires its own product codes, and that sales were not adequate to justify those costs.

I mentioned software houses I knew who wanted to continue selling the product, and asked if DRI would consider licensing it. She suggested that anyone who wanted to make such an arrangement contact Mike Lostus, whose title is something like, "Manager for Operating Systems Marketing". Address: Digital Research, Inc., P. O. Box DRI, Monterey, CA 93942, (408) 649-3896.

Conclusion

Rainbow Concurrent CP/M is an excellent product which combines high functionality withy continued use of existing software. It is possible that a small company might license it from Digital Research, and could make a profit by operating at lower overhead. Alternatively, it is possible that DEC would decide to pick up the product to provide continuity in the software support for their hardware. Unless DEC decides to port Concurrent DOS to the Rainbow, Concurrent CP/M provides functions needed by some users which are not provided by any other Rainbow product.

Rainbow owners who would like to buy Concurrent CP/M will still (as of June 85) find it in stock at some mail order houses. In the interest of continued availability, I encourage interested users to contact both DEC and potential small distributors and express their interest.

Willett Kempton is a university researcher and DEC user. This article was taken from the VAXsig on Compuserve, and was previously published in the San Francisco Bay Area DEC PC User Group News.

More on the CCP/M situation:

From the Compuserve VAXsig: I'm so bummed out that CCP/M appears to be virtually unavailable that I'll be writing an angry "letter to MA" to gripe about DEC and CCP/M; I might even take it as far as an article for DEC Professional on the great lost operating system, or something! Also, what's all this BS about being unable to use GSX on more than one CCP/M console? (Robert Trelease)

I am relaying to this SIG a message that I just saw posted on the Digital Research SIG: "I talked with our manufacturing department a few weeks ago and discovered that we had just filled an order for 1000 DEC CCP/Ms! This order went directly to DEC, so I guess it will soon be available from them. The only support we will provide for it is through this SIG via other users and our "off-the-top-of our head" knowledge of the product. If DEC is going to sell the product, I assume they will have some sort of support set up for it. (a DRI employee)

A knowledgeable source at DEC's Peripheral and Supply group who told me that the large order for CCP/M was for purposes of a big Rainbow PC deal to a corporate user who will be using CCP/M as part of a custom application. However, if there is enough interest, my source noted, DEC could probably be persuaded to include CCP/M in its DDS (Digital Distributed Software) program. This is the stuff DEC will not warrant or support. (Will Roberts)

All of the above was published previously in the San Francisco DEC PC User Group News.

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1 This section is excerpted from a Digital Research Publication, "Digital Research ISV Forum", Vol. 3, No. 4, November, 1983.

GRAFTALK: A FEW COMMENTS
by Lisa Heinz

Graftalk has lots of handy preformatted settings for common graphics needs. For example, when doing graphs, it already knows the days of the week, months of the year, and years; all you have to do is give it a starting point and an increment: for instance, [months jan 1] will generate Jan, March, May. . .along the specified axis. Graftalk automatically sets the values of the x and y axes by the range of the data, unless told otherwise. It automatically changes line types, colors, or shading types when you plot several sets of data on one graph. And more. It is fast and flexible, but if you want it to do anything except pie, bar, and line graphs, you're on your own. It has an interactive/joystick mode, so any graphic can be produced; it is just difficult and timeconsuming. Graphics created in interactive/joystick mode are a pain to edit, and nearly impossible for anyone other than the person who created the graphic in the first place, or who hasn't spent many hours in interactive mode. But Graftalk is easy, fast, and fun for bar, pie, and line graphs, and for very simple interactive graphics.

COMMENTS: TEKTRONICS EMULATION AND SPEECH MASTER
by Francis Shepard

We have used software which allows the Rainbow to emulate a Tektronics 4010 series terminal (with communications) and have downloaded drawings from a PRIME CPU via 1200 baud lines. The software allows windowing and expansion of the window to any degree onto the screen. The drawing must be subsequently downloaded onto a disk to be printed (we use an LA50). Unfortunately the window cannot be printed. However, we since the Rainbow emulates the Tektronics terminal, we believe that we can create a window at the mainframe and download it. We haven't tried it yet.
The software works very well and the documentation is good. It is called GTM-10 and is available for $! from Machine Algorithms, 1515 Ninth Street, Boulder, CO, 80302, (303) 442-1072.

We have also used Speech Master, software for making viewgraphs, on an LA50 printer. the documentation is terrible--read appendix D first. We found several ways to hang up the Rainbow so that only a cold boot [turning the computer off and then restarting it instead of using set up/control set up] will do. It does make nicely lettered printouts which we have used as report covers. The cost is $ plus $ shipping. As mentioned in the January, 1985 newsletter, the address is Graphic M*I*S, Inc., 960 Clocktower Drive, Springfield, IL 62074, (217) 793-0884.

Francis Shepard is a member of the Washington Area Rainbow User's Group.

PUBLIC DOMAIN GAME REVIEW: HACK--EXPLORING THE DUNGEONS OF DOOM
By Rick McClinton

Hack is a screen-oriented Dungeons and Dragons style game similar to Rogue on the Unix/Ultrix systems. You, the brave adventurer, set out into the dungeons to slay evil monsters and gain gold, useful items, and magic items both baneful and beneficial. Your distant goal is to descend twenty or thirty levels into the dungeon, find the amulet, and return to the surface again.
Along the way, you and your little dog, who can be trained to do all sorts of useful things, will meet up with a wide array of monsters, traps, obstacles, and objects. Monsters like the Floating Eye and Quivering Blob will challenge you to battle. Traps

such as the pit and the teleport will hinder your movements. Secret doors and passageways block you from special areas. Sometimes you will run across a store where you can buy anything for any price (as long as it is very high). But don't give p hope, there is still a chance you will win! (Or so says Two Bacca, the bookie. . .)
Hack is played on your DEC Rainbow, using ANSI escape sequences so you don't need the graphics option. It doesn't use VT100 special characters, either. Every symbol used in Hack is accessible to you through the keyboard just by turning on the machine. Hack has on-line help for both instructions and command lists. It also has a feature which allows you to identify any object with a single command.
Hack is available through the Wash-A-Rug FIDO bulletin board and will be available from the public domain library. Getting it is worth the disk and the trouble!

Rick McClinton is a high school student who, when he wrote this review, had reached level 10 in Hack. He is also a member of the Washington Area Rainbow User's Group.

USING MS-DOS BATCH FILE COMMANDS

by Steven Stewart

All of the commands discussed here are documented in the user's guides that come with your operating system. However, the user's guides do not provide many examples of how to combine the commands to create a useful batch file. The example batch files presented in this article, or your own variations of them, will not only provide examples of how several commands work, but also may be of use in your MS-DOS applications.

A batch file, in its simplest and most commonly used form, is merely a series of MS-DOS commands saved in a file with a filename extension of BAT. Once such a file has been saved you can execute it from the usual MS-DOS command prompt by entering only the filename (without the .BAT extension).

A Simple Menu System

The first example of batch file commands will be a simple menu system. This is an excellent use of batch files, and can be implemented very quickly and easily. Such a system makes it easier for several people in an office to use a single computer. In the following example, one batch file displays a menu on the screen which lists the programs that are available on the computer. When the user chooses which program to run, another batch file automatically switches the user to the proper subdirectory or prompts the user to insert the proper diskette, and executes the necessary commands to run the program. Thus each user does not need to know the details of where the programs are kept or what the syntax is for any commands.

(Note: If you want to enter the following example batch files and try them out you can use the EDLIN program that comes with the MS-DOS operating system. If you use your own word processor, be sure to save your batch files as MS-DOS text files instead of saving them in the word-processor format. For example, in WordPerfect save or retrieve your files as DOS text files rather than using the Save or Retrieve keys. If you use WordStar, open your file as a non-document file. Many simple editors, such as program editors, save the file in the proper format automatically.)

The following is a batch file named MENU.BAT which displays a menu.

```
1: ECHO OFF
2: REM  MENU.BAT: DISPLAY MENU.
3: CLS
4: TYPE MENU.SCR
5: PROMPT --$g
```

Note that the line numbers shown above are for reference only. If you try this batch file on your own computer, do not key in the line numbers or the colons immediately following them. To run the batch file you just type MENU and a carriage return at the MS-DOS command prompt.

The first line, ECHO OFF, is the first line of many batch files. The ECHO command may take any of three parameters. If the parameter is OFF, all subsequent commands in the batch file will not be displayed on the screen. The results or output of the commands will be shown, but not the command lines themselves. If the parameter is ON (the default) subsequent command lines will be displayed. If the parameter is neither OFF nor ON then the rest of the line following the word ECHO is taken to be a text string which is displayed on the screen. ECHO is often turned OFF at the beginning of a batch file simply to control the appearance of the screen while the batch file is executing.

The second line of MENU.BAT is a comment to help document the batch file. Comments begin with REM (for REMark). While it is good to document your batch files to some extent, you will find that too many comments can significantly decrease the speed with which your batch files execute.

The third line of MENU.BAT, CLS, is an MS-DOS command to clear the screen. The cursor is automatically placed in the upper-right corner of the screen.

The fourth line uses the MS-DOS TYPE command to display a file, MENU.SCR, which contains the menu. You must create this file to look just as you want it to appear on the screen. (You could also use the ECHO command repeatedly to list the menu to the screen one line at a time, but the TYPE command will display a screen full of information much more quickly than a series of ECHO commands.) MENU.SCR might show that option 1 is to enter BASIC, option 2 is to enter your word processing program, option 3 is to enter your spreadsheet, and so forth. The last line of the MENU.SCR file might say something like "Enter the number for your choice." If you know how, you might even give your menu screen a professional look by inserting the escape sequences in your MENU.SCR file to create double-width characters for the menu title, put the numbers in bold or reverse video, and use the special graphics character set to draw a box around the menu.

The last line of MENU.BAT changes the usual MS-DOS system prompt. By using the PROMPT command you can make the system prompt appear to be just about anything you want, including the time, date, default directory, or any text. The MS-DOS Advanced User's Guide lists the characters to use in the PROMPT command to display special prompts. The prompt shown in the example is a simple right arrow, "-->", which will be displayed instead of the usual default drive, such as "A)". This will provide the impression to the user that the computer is waiting for a response to the menu instead of an ordinary MS-DOS command. At any time you can get back the default MS-DOS system prompt by typing PROMPT followed by no parameters. This command might also be made into a "Return to MS-DOS" option in your menu.

Once this file is displayed, the user will see the cursor at the "-->" prompt and may enter any valid MS-DOS prompt. To respond to the menu, the user will enter the number of the program to run followed by a carriage return. Thus, you will also need a separate batch file for each choice in the menu. The batch files will be named 1.BAT, 2.BAT, and so on. Here is an example of a batch file named 3.BAT which enters Lotus 1-2-3.

```
1: ECHO OFF
2: REM  3.BAT: ENTER 1-2-3.
3: CLS
4: ECHO Put Lotus system disk in drive A.
5: PAUSE
6: CHDIR \LOTUS
7: 123
8: CHDIR \
9: MENU
```

The first three commands in the 3.BAT file are similar to those already discussed in the MENU.BAT file. The fourth line is an example of an ECHO command to type a message to the screen. Since 1-2-3 is a copy protected program, you must place the Lotus system diskette in the A drive even when the actual program is run from your hard disk. Line 4 tells the user to do so.

The fifth line is a special batch command which interrupts processing of the batch program until the user presses any key on the keyboard. The message "Strike a key when ready . . ." is automatically displayed on the screen. Presumably, the user will then insert the Lotus system disk in drive A and strike a key according to the instructions on the screen. Alternatively, the user might type control-C at this point to discontinue processing of the batch file.

Line 6 changes the default directory to the LOTUS subdirectory where the program is kept. Line 7 executes 1-2-3. After the

user exits from 1-2-3, control is returned to the batch file. Line 8 then changes the default directory back to the root directory or to whatever directory that the menu system batch files are kept.

The last command of 3.BAT is MENU. This executes the MENU.BAT file, which once again displays the menu on the screen. It is important to know that, although one batch file may pass control to another in this way, control will not automatically be returned to the first batch file once the second batch file is finished. MS-DOS keeps track of processing only one batch file at a time and does not allow the nesting of batch files. In the above case it makes no difference since the MENU command is the last command of the batch file.

You might also make the MENU command the last line of your AUTOEXEC.BAT file. An AUTOEXEC.BAT file, if it exists in your root directory, is automatically executed immediately after MS-DOS is first loaded. Making MENU the last command in this file will cause the menu to be displayed as soon as you first enter MS-DOS. Incidentally, you should also put the DATE and TIME commands in your AUTOEXEC.BAT file so that you will still be prompted for the date and time to set your system clock/calendar.

It should be easy for you to think of ways to enhance the above menu system to suit your own needs. For example, some menu choices might execute other batch files which lead to submenus. Others might execute commonly performed MS-DOS functions such as listing the files in a particular subdirectory or backing up certain files to a diskette.

Copying Without Fear

The example I will use to illustrate more advanced batch commands may also help to solve a problem you may have come across if you have a hard disk on your system. If you have a diskette-based system you still may find applications for this kind of batch file. Let's say you have a subdirectory on your hard disk in which you keep files pertaining to a particular project, say, the XYZ project. Like all careful computer users, you regularly back up the files on your hard disk onto diskettes. This is easily done from the hard disk subdirectory by using the command "COPY E:*.* A:". (We will ignore the possibility of using the BACKUP command for this example.) Usually if there are already files on the backup diskette in A:, you do not mind overwriting them with the updated versions that are on your hard disk. The COPY command will overwrite the old files automatically. Now, some time has passed, you have backed up the files on your subdirectory several times, and you have erased some of the XYZ project files from your hard disk to save space. But now the XYZ project is starting up again and you need to retrieve all the XYZ project files from your backup diskette. You could use the command "COPY A:*.* E:" from your hard disk subdirectory to retrieve all the files, but by using this command you might overwrite some files on your hard disk with older versions on the backup diskette. Wouldn't it be nice if MS-DOS had a command that only copied files that do not already exist on the destination drive?

MS-DOS does not have such a command, but you can create your own command to do this with the following batch file. I call the file RETRIEVE.BAT.

```
 1: ECHO OFF
 2: REM  RETRIEVE.BAT: GET BACKUP FILES WITHOUT OVERWRITE.
 3: A:
 4: :TEST
 5:    IF '%1' == '' GOTO END
 6:    FOR %%F IN (%1) DO IF EXIST E:%%F GOTO WARNING
 7:    GOTO COPY
 8: :WARNING
 9:    ECHO Note: The following files are on both
10:    ECHO A: and E: and will not be copied:
11:    FOR %%F IN (%1) DO IF EXIST E:%%F ECHO %%F
12: :COPY
13:    ECHO Retrieving %1 . . .
```



```
14:    FOR %%F  IN (%1)  DO IF  NOT EXIST  E:%%F COPY A:%%F
E:
15:    SHIFT
16:    GOTO TEST
17: :END
18: E:
19: ECHO Retrieval complete.
```

As I mentioned above, the line numbers and colons immediately following them are for reference only and should not be keyed into your batch file. However, the colons that immediately precede the statements in lines 4, 8, 12, and 17 are part of the statements and should be keyed in.

Many commands in the RETRIEVE.BAT file should be familiar from the last example. Line 1 tells MS-DOS not to display the commands in the batch file as they are being executed. Line 2 is merely a comment to document the batch file. Line 3 makes A: the default drive. This is necessary for some of the commands in the batch file to work properly. Near the end of the batch file, on line 18, the default drive is made E: again.

Line 4, ":TEST" is the first unusual looking line. This line is called a label. It's purpose is to act as a reference point so that you may go directly to that line from somewhere else in the batch file. Notice line 16, "GOTO TEST", near the end of the batch file. This GOTO statement, when it is eventually reached, will cause execution to continue on the line immediately following the line labeled :TEST. Thus, most of this batch file is a large loop, being repeated over and over again. (The reason for this will become clear shortly.)

In general, a label is any line in which column 1 contains a colon. Immediately following (no space) the colon is a string of characters which identifies the label. Any other words on the line are regarded as a comment. In the above batch file, lines 4, 8, 12, and 17 are examples of labels. While the initial colon is a necessary part of the label statement, in the GOTO statement the colon should not be typed as part of the label name.

Line 5 is an example of an IF command. There are several versions of the IF command. The one on line 5 simply tests for the equality of two character strings. The format of this kind of IF statement is "IF (string1) == (string2) (command)". In RETRIEVE.BAT, if the string '%1' is exactly the same as the string '' (these strings will be explained next), then the GOTO statement on the IF command line is executed and control is passed to the statement following the label :END (line 17). If the two strings are not equivalent, then the GOTO statement is not executed, and the batch program continues with the statement following the IF command, line 6. In general, the command appearing after the string equivalency test on the IF command line need not be a GOTO statement. Any valid MS-DOS command is possible.

So, how can the string '%1' ever be equivalent to the string '' on line 5? In a batch file, any single digit preceded by a percent sign stands for a parameter originally on the command line that you entered to execute the batch file. Thus, %1 stands for the first parameter, %2 for the second, and so on to %9 standing for the ninth parameter. The %0 parameter stands for the batch command name itself. Presumably, when you execute this batch file you will enter a line something like "RETRIEVE XYZ*.*" to retrieve all of the XYZ project files from the diskette in drive A: to the current default directory on the E: drive. In this example, the XYZ*.* on the command line would be the first parameter. When the IF statement on line 5 is executed, the %1 is replaced by XYZ*.*. Thus, the statement will be interpreted as "IF 'XYZ*.*' == '' GOTO END" and, of course, the GOTO statement will not be executed since the two strings are not equivalent. If you had not included any parameter after the RETRIEVE command, then the statement would have been interpreted as "IF '' == '' GOTO END" and since the two strings are equivalent, the GOTO statement would transfer execution of the batch file to line 18. This is exactly what we want, since if the user of the batch file specifies no

files to copy, then we can skip the copy process and end the batch file.

Incidentally, in an IF statement it is not absolutely necessary to enclose the strings to be compared in single quotes. The statement is actually comparing any two character strings delimited by spaces. Thus, you might have statements like "IF %1 == C GOTO STEPC". This way of coding the IF statement is perfectly valid as long as %1 is not a null string. That is, if the user does not enter any parameters on the command line, then the above IF statement would be interpreted, after substitution of a null %1, as "IF == C GOTO STEPC". This is an invalid statement, since there is no string specified before the == sign. If this happens, then the user would be warned of a syntax error when the batch file is run. To avoid this possibility, I usually append some extra character to both strings to make sure neither string is evaluated as null. Enclosing the strings in single quotes, as in RETRIEVE.BAT, serves this purpose.

Another important type of IF statement tests for the existence of a file. The format of this kind of IF statement is "IF EXIST (filename) (command)". (The word EXIST in this command must be in upper case.) When this statement is executed, MS-DOS searches for the specified file in the current directory. The file specification may include the standard wildcard characters (* and ?), but it may not include a path name. If the file exists, the (command) is executed. Otherwise, (command) is skipped. This type of IF statement is seen on lines 6, 11, and 14.

Before looking at the rest of the batch file it will be helpful to introduce the FOR statement. The FOR statement allows you to execute a single command several times in succession, changing the command in some way each time. The general format of the FOR statement is "FOR %%c IN ((set)) DO (command)". The words FOR, IN, and DO must be upper case. The (set) is either a series of character strings separated by spaces or a file specification which may include wildcard characters (although the file specification may not include a path name). The (set) must be enclosed in parentheses. The letter c following the two percent signs can be any single character except a numeric digit. The %%c represents a variable which changes value each time the FOR statement executes the (command). The FOR command is executed as follows. For each member of (set), make %%c equal to the (set) member and then perform the (command). Usually, the (command) will include the %%c so that the (command) will appear different in some way each time it is executed. An example of how to use the FOR statement is: "FOR %%F in (TYPE PRINT ERASE) DO %%F MYFILE.DOC". This FOR statement will execute three commands in succession: "TYPE MYFILE.DOC", "PRINT MYFILE.DOC" and "ERASE MYFILE.DOC". Another example is: "FOR %%F IN (XYZ*.*) DO ECHO %%F". This command would search the current directory and display on the screen each filename which matches the file specification XYZ*.*. Consult your MS-DOS User's Guide for other examples and an explanation of why the double percent sign is necessary.

Line 6 is a pretty complicated statement. Let's divide it into pieces and look at them separately. The statement starts with "FOR %%F IN (%1) DO ...". Remember that when the RETRIEVE batch file is run, %1 will be a file specification. Since we switched to the A: drive in line 3, this FOR statement will search the A: diskette for each file matching your first file parameter on the RETRIEVE command line. For each matching file that it finds it will execute the command following the DO statement. What is this command? It is an IF statement, "IF EXIST E:%%F GOTO WARNING". Thus, for each matching file on the A: drive, the IF statement will test whether the file also exists on the default directory of the E: drive. If it does, the "GOTO WARNING" statement is executed which passes control to a part of the batch file that displays a warning message. If the same files are not found on both the A: and E: drives, then it is safe to perform the file copy. In this case the "GOTO WARNING" statement on line 6 will never be executed, but instead the "GOTO COPY" statement on line 7 will be executed.

The warning section of the batch file, lines 8 through 11, echo a warning to the user that certain files exist on both the A: and E: drives and will not be copied. Line 11 then displays the name of each such file on the screen. The FOR statement in line 11 is almost exactly like the FOR statement in line 6 which was discussed in detail above. The only difference is that for each file that is both on the A: and E: drives, an ECHO statement is performed instead of a GOTO statement.

The copy section of the batch file, lines 12 through 14, copies from A: to E: only the files that are not already on E:. Again, the FOR statement in line 14 which performs the copy is almost exactly like the FOR statement in lines 6 and 11. This line shows a variation of the IF statement that has not yet been discussed. It is possible to precede the conditional part of the IF statement with the word NOT (must be upper case). The entire FOR statement may be interpreted as follows: "For each file on the A: drive matching the file specification listed as the first parameter on the batch file command line, if the file is not also on the E: drive then copy the file from A: to E:". This one statement does all of the important work of the batch file. In fact, most of the other statements in the batch file are merely enhancements and could be deleted.

The SHIFT statement on line 15 makes the old %2 equal to %1, the old %3 equal to %2, and so forth. Thus, if the user listed more than one file specification to copy on the RETRIEVE command line, the second file specification now becomes %1. Line 16 returns control to :TEST at the beginning of the batch file, and the whole process repeats itself. The test in line 5 will cause the batch file to jump out of this loop as soon as a null parameter is encountered, which means that the user listed no more file specifications on the command line.

Whereas most of the batch files that are commonly written perform a single very specific task, the above example shows how you can create flexible, general purpose commands of your own that can execute differently depending on the parameters you supply. You can probably think of several ways you might enhance the above batch file to suit your own needs a little better. You might also want to create something like an ARCHIVE batch file which backs up selected files to diskette.

Steven Stewart is a Software Engineer with Computer Science Corporation.

(c) 1985 by Steven Stewart

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SCREEN CONTROLS FROM CP/M OPERATING SYSTEM

by N. Jay Bassin

We all know that the Rainbow screen can do some pretty nifty things with graphics, bold (high-intensity), underlining, double height/width, direct cursor addressing, etc. If you use a printer with "escape" sequences to change font, spacing, or other attributes, you also know that those features may be toggled by appropriate software (e.g., BASIC or some word processing package or such). It is possible, however, to generate these screen and printer "escape" sequences directly from the CP/M operating system prompt! For example, the VT100 sequence for "clear screen and home cursor" is "(ESC)[2J (ESC)[H". In BASIC, this command would be expressed as "CHR$(27)+"[2J"+CHR$(27)+"[H". However, if you tried to execute the command from the system prompt, you would get a "beep" and a "?". The trick is to first type a space at the prompt, then the escape sequence using the (CTRL) key thus:

A)_(CTRL)(ESC)[2J(CTRL)(ESC)[H (return)

(the "_" signifies a space, not an underline.) If you key this in, you will see echoed on the screen: A) ^[[2J^[[H. The "^[" is the "key" form of the non-printable (ESC). To exit from the

Rainbow's graphics mode to the standard USA ASCII character set, type " (CTRL)(ESC)(B" followed by a return. For my printer, I have to send a "decimal-29" (ASCII GS) to toggle 17-cpi printing and an "ESC 1" to toggle letter-quality printing. To generate an "ESC 1" to the printer from the operating system, first type a "CTRL P" (^P) to echo all commands to the printer. Then type a space, (CTRL)(ESC)1(CR). It will appear as "^]1". (Don't forget to type another ^P to turn off echoing to the printer.) However, how do you generate a "decimal 28," which is a non-printable character and which has no apparent key? All of the first 32 ASCII characters, non-printing though they may be, are "emulated" by a particular escape-character. Some of the more complete ASCII character code charts contain these keys. (If yours doesn't, you can figure it out easily as follows: add 64 to the decimal equivalent to the character (found in any table), and find the ASCII expression of that value. For example, decimal "7" beeps the keyboard. Add 64+7 = 71, which converts to "G." If you type a (CTRL)G, you'll get a "beep.") OK, following that rule, we find that decimal 28+64 = 92, which is the ASCII "\" (backslash). When I want to toggle 17-cpi on my printer from the operating system, all I need do is type a "space(CTRL)\" and it would show up on the screen as "^\". As soon as I hit (RETURN), I can hear the printer switch over. You can do any valid escape sequence this way, and even concatenate sequences if you don't put in extra spaces between the expressions (such as the "clear screen, home cursor" commands above).

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DOS-FORMATTING A BLANK DISKETTE
by N. Jay Bassin

Contrary to the instructions in the MS-DOS manual and in the FORMAT command instructions, it is possible to format a fresh disk without first running the CP/M format command. The trick is to use the undocumented "initialization switch" ("/I") with the command. Thus, at the DOS prompt, type:

A)FORMAT B:/I (CR)

If you want to transfer the DOS system files (and COMMAND.COM) to the new diskette to make it "bootable", use the "/S" switch with FORMAT in the same manner.

(c) 1985 by N. Jay Bassin

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TECHNICAL ARTICLES

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ADDING MEMORY: IT'S EASIER AND MORE INEXPENSIVE THAN EVER
by Tom Tugman

New software programs call for more and more memory. DESQ, for instance, can require over 512K of memory in order to operate in conjunction with other programs. Lotus will gladly utilize more memory, if it has the opportunity. And more memory allows you to make a larger RAM disk, which allows programs to operate much faster than they can on floppies.

A couple of meetings ago, one of the Washington Area Rainbow User Group's members, Bob Catt, mentioned that it was possible to get 150 nanosecond 256K chips for as little as $) each (it takes 9 separate chips to make 256K), from a company in Beggs, Oklahoma. DEC offers 9 chips (200 nanoseconds) for a bargain price of $ (the same price as the 256K memory board).

We had purchased the 256K board when we originally bought our Rainbow 100+, but couldn't afford to "populate" the board to the maximum allowed: 896K. (Back then the board was $).

Although I was skeptical--I had never heard of Microprocessors Unlimited [24000 South Peoria Avenue, Beggs, OK 74421, (918) 267-4961], and we have had bad luck with mail order firms before--I finally decided to order 512K worth of chips. By the time we got around to calling, the chips had dropped substantially in price. The day we ordered them, Friday April 12th, Microprocessors Unlimited was actually selling them for $ each! [As of the end of July, they are less than four dollars each.] The operator at the company informed us that the price changes frequently, depending on the supply and price in Japan. The two sets, or 18 chips, came to $. They shipped them Federal Express for $6.00, making the total price for 512K only $. Microprocessors Unlimited took a credit card number, but agreed that we could send them a check when we received the chips. We received them the next Monday, April 15th.

Installation was easy. Microprocessors Unlimited sent along a bizarre several page long set of instructions, but this is all you really need to do:

1. The chips arrive in boxes wrapped in aluminum foil. Don't open the foil until your're ready to install the chips.

2. This affair is casual dress only. Be sure to wear cotton clothes (no nylon or other synthetics) and no shoes. The static charge generated by leather on a wool or synthetic rug can destroy the chips (not to mention the memory board!).

3. Put a towel down on the table as a cushion, then spread out a long sheet of aluminum foil.

4. Completely unplug your Rainbow from the wall.

5. Unplug the peripheral interface cords from the back of the Rainbow. Remove the system unit cover.

6. Unscrew the back and remove the circuit boards. You will have to unplug all of the internal ribbon cables for the power source, floppy and hard disk, etc.

7. Remove the Memory Extension board. Lay it down on the aluminum foil, chip side up.

8. Open the box(es) of chips. Touch the aluminum foil with your fingers before removing the first chip and plug it into one of the vacant sockets in the memory board, making sure that the notch is in the same direction as the chips already in the board. Make sure that the tines are correctly aligned by pushing them in a little on

each side first, before pressing the chip down. Don't press too hard on the chip or the memory board.

9. After you have installed all of the chips, check the dip switches which are located to the left of the memory banks. If you have installed 256K chips, all of the dip switches should be up. (Switch 4, on the right, is always up.)

10. Put the Rainbow back together. If you have a 100A, you will need to go into SET-UP and manually reset the amount of memory; on the 100+, it will reset automatically. Run Test 1 on the Rainbow diagnostics disk. (If the test fails, open the system unit and check to see if any of the chips are loose.) If it passes, you're finished!

Note: Since this article was first published in the Washington Area Rainbow User's Group Newsletter, I have had a number of calls from Rainbow users who want to know if there is a way to avoid buying a 256K memory board (PC1XX-AD/LZ) from DEC ($699) in order to upgrade memory [or, in the case of a Rainbow 100A, buying the 256K memory board and the DEC memory adaptor board (PC1XX-AK/LZ, $99)]. One alternative is to buy a 128K board from DEC (PC1XX-AC/LZ), which is only $300. The 128K board, which is physically the same as the 256K board, has 2 banks of 64K chips and one empty bank. You can remove the 64K chips and fill all three banks with 256K chips. Use of the 128K board saves approximately $350, including the cost of a third set of 256K chips. The only third party boards I know of, by Univation, go to a maximum of 448K. If any readers have a better answer, please contact me or the newsletter editor at (301) 927-0108.

FOLLOW UP: AN ADDENDUM ADDING MEMORY CHIPS

Dear Tom,

As a follow-up of our conversation regarding adding 256K chips to the Univation board(s), Univation stated that the boards were not designed to accept the additional capacity, even though the 256K chips would fit in the slots. As a further hindrance to adding to the board without Univation's help, is the lack of dip switches on the board. This function is performed by something Univation calls "memory mapping PAL" which apparently must be furnished by Univation.

Univation stated that they are working on a redesign of the board to accept 256K chips. They were asked to come up with an attractive trade-in arrangement. The current 192K board has 27 slots; filled with 256K chips it would produce 768K.

I would like to mention that Univation repaired my board in one day. That is truly good service! My system was down for less than one week total. I really owe them a vote of thanks.

Bob Saul
Covington, Louisiana

(Tom Tugman is a systems analyst with General Electric. He is Treasurer of the Washington Area Rainbow User's Group. He also furnishes technical advice to the editor of the WARUG Newsletter. This article originally appeared in the WARUG Newsletter.)

(c) 1985 by Thomas O. Tugman

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RAINBOW EXPERIENCES PROBLEMS WITH FLOPPY DISK REINFORCING HUBS
by Arthur Wouk (via ARPANET)

I have recently had the following experience with my DEC Rainbow. I received the Rainbow in March, 1984, with two floppy drive units (four disks) and began using Verbatim Datalife floppies at that time. I started using Dysan floppies in September, when

our purchasing department switched to them.

About two weeks ago, I began to have trouble reading from Drive D; later the trouble appeared on Drive A. I tried to format a new box of Dysan disks, but was unable to format them on any combination of drives, one for the (z xprogram, the other for the disk to be formatted. At this point I called DEC Support. . . .The repairman came, and he tried the usual. Replaced all possible electronics to no avail. He could get DEC floppies to format from DEC furnished CP/M sources. In all cases CP/M reported that the drives were not in acceptable speed range. Replacement of all four drives (two disk units) made DEC floppies work, but did not permit formatting the Dysan disks.

The word from the DEC phone backup support people is the following: Rainbow drives are intended to be used with floppies WITHOUT reinforcement rings at the central hole. The presence of these rings damages the drives, while the drives damage the rings, to the extent that eventually BOTH are unusable. You must use non-reinforced floppies. There is no statement of this in any DEC literature, but the software which is DEC-supplied is always on unreinforced disks.

Apparently this problem has just begun to surface. Change your floppies as soon as possible to unreinforced, or expect trouble with the drives eventually. With my new drives, I am able to read the VERBATIM disks, but not the 10 or so DYSAN disks. I am puzzling over methods to recover the information on the latter disks.

An addendum to my note, "Warning to DEC Rainbow Users." Several floppy manufacturers (Memorex, 3M, Inmac, . . .) now sell a disk for the Rainbow with special format. The same disks are also to be used with the DECMate II (not the DECmate I) and the PRO 350 series. Apparently DEC changed their drives about the same time the Rainbow was introduced, without telling anyone.

[Editor's Note: The Digital Hotline hardware people explained that there are two parts to this problem. First, the reinforced hubs are more liable to slip, which can make them impossible to read. Second, the reinforced hubs can cause the plastic fingers which grab the disk while it is in use to be damaged, particularly if the hub is off center. On the other hand, if you use non-reinforced hub disks, they tend to wear out very quickly. The Hotline representative said that this should not happen, and if your drives are trashing your disks, you need a service call. There are tell-tale signs that this may soon occur: look for tiny scratches on the center rings of the disk. There should be none. The primary problem with continuing to use disks with reinforced hubs, other than destroying your disk drives, is that you may not be able to read the information off of them if they become damaged. Of course the same thing can happen to non-reinforced floppies. The best solution: keep at least two back-ups.]

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SETTING PRINTER FEATURES
by Paul Vince

Many printers use control sequences set up by the American National Standards Institute (ANSI) to control features such as horizontal and vertical pitch, printing density, and bold and underline selection. These control sequences are also called escape sequences, since most begin with the ASCII "escape" character. A detailed list of your printer's features and the control or escape sequences required to invoke them should be found in the User's Manual.

There are a number programs available which can set the printer with the desired features. Most word processing programs offer the user the ability to control printer features with internal editing controls (see "WordStar and the LA-50" below). Lotus 1-2-3 and Symphony offer the opportunity to enter a printer setup string (another term for a control sequence) before printing a worksheet. There is an excellent DEC program called "SETPORT",

available from the WARUG public domain library in both MS-DOS (vol. 28) and CP/M (vol.29) which allows you to set many features of the DEC LA-50, LA-100 and LQP102 (plus communication parameters). My vote for easiest to use with the LA-50 is an MS-DOS program called PCLA50.COM available in file area #12 of the Wash-a-Rug bulletin board, and on Volumes 40 and 57 of the WARUG Library.

However, if you don't have any of these handy programs, you can enter control sequences directly from the keyboard. As an example we will use the control sequence which causes the printer to use the compressed pitch, the 16.5 cpi (character per inch) pitch in which this newsletter is printed. The control sequence for the LA-50 (and presumably for other printers using ANSI control sequences) is "[ESC] [4 w" (Escape, left bracket, 4, lower case "w"). The lower case "w" MUST be used or the sequence will not work.

In CP/M, at the system prompt, type:

PIP LST:=CON: <Return>

<ESC>[4w <Return>

The monitor displays [4w and the cursor returns to the beginning of the line.

<Ctrl>-Z

returns you to the system prompt. The printer should now type in the compressed pitch.

In MS-DOS, at the system prompt, type:

COPY CON: PRN:

<Interrupt>[4w <Return>

The monitor displays ^[[4w and the cursor moves to the next line. Press

<Ctrl>-Z <Return>

You'll receive the message,

1 file(s) copied

and you will be returned to the system prompt.

If you wish to set other features, just type additional control sequences on separate lines before the <Ctrl>-Z which is the end-of-file message. You can use either upper or lower case for the PIP and COPY commands but the letters in the escape sequence MUST be in the case indicated in the manual.

The simplest way to reset the printer is to turn it off and back on but it can also be accomplished by repeating the above procedures and substituting either a 0 or a 1 instead of the 4 in the second line. If you plan to use an escape sequence often, use a CP/M editor such as RED or an MS-DOS editor such as EDLIN to name and create a file containing the escape sequence(s) followed by ^Z. Then, to set the printer use either PIP or COPY as shown above, replacing "CON:" with the filename. If you view these files after creating them, you should notice that both the <ESC> in CP/M and the <Interrupt> in MS-DOS are displayed as ^[which is the symbol for Escape.

WordStar with the DEC LA-50 Printer

Both the CP/M (v 3.33) and MS-DOS (v 3.31) versions of WordStar offer the DEC LA-50 printer (among many others) as choices on the installation menu. Selecting the LA-50 installs some pitch selection features which are only documented in the files LA-50.TST (or LA50-100.TST) and LA50ENH.TST found on the distribution disk. The default pitch is 10 cpi (characters per inch), also known as pica pitch, which gives a line length of 80 characters. The dot

commands for setting horizontal pitch and lines height do not work for the LA-50 (at least in my hands). However, the command ^PA (Ctrl-PA) toggles the printer to 12 cpi, known as elite pitch, with 96 characters per line. The "P" is not displayed on the wordstar screen, only the carat and the second character (e.g. ^A) will be seen. Four "user patches" ^PQ, ^PR, ^PE and ^PW, toggle the printer for four additional pitches giving the user access to all 6 pitches of which the printer is capable. (The default pitch is ^PN. To return to the default pitch from ^PQ, ^PR, ^PE or ^PW, type ^PA^PN; to return to the default pitch from ^PA, type ^PN):

PRINT CONTROL					
^PQ	^PA	^PN	^PR	^PE	^PW
PITCH (CPI)					
16.5	12	10	8.25	6	5
CHAR PER LINE					
132	96	80	66	48	40

Other features which control the appearance of the print are enhanced density (^PY), bold density (^PB), double striking (^PD) and underlining (^PS). Neither enhanced density nor bold printing will work with the 16.5 or 8.25 pitches. Bold and enhanced densities cannot be used together. Double strike printing (which closely resembles bold) and underlining will work with all pitches in regular or enhanced density.

Combining the six pitches with enhanced density, bold or double printing gives a total of 24 different print appearances on the LA-50. Although the characters appear normal on the screen, if you mix pitches it will probably be necessary to adjust the page offset to get the left margins to line up. You may also need to reset the right margins to accomodate the new line length (given in the Characters per Line list above). In order to get double strike printing to operate properly, it may be necessary to place the print command(s) above the line to be double printed. However, with a bit of experimentation you can quickly become familiar with the options, and enjoy an unexpected printing versatility with the LA-50.

The "user patches" (^PQ, ^PR, ^PE AND ^PW), also installed for when LA-100 is selected from the Printer Installation Menu and their functions, are documented in the files LA50-100.TST and LA-100ENH.TST on the distribution disk. These user patches are not installed for printers other than the LA-50 and LA-100. However, they can be installed for any other printer (or changed for the LA-50 and LA-100) by following the instructions for "User-Defined Functions" in the "Custom Printer Installation" section of the WordStar Installation Manual.

See pages at end of this newsletter for commands and samples of the print they produce.

Paul Vince is on the steering committee of WARUG.

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LOTUS 1-2-3 PRINTGRAPH ON THE RAINBOW
by N. Jay Bassin

Users of Lotus's 1-2-3 on the Rainbow know that the PrintGraph printer library is limited to DEC's LA-100 and LA-50 dot-matrix printers. Lotus users who also use other computers such as the IBM-PC also know that this limited printer library is unique to the Rainbow. For nearly two years I have moaned, complained, written polite letters, telephoned, and generally made a nuisance of myself at DEC and Lotus--to no avail. Not being a "techie," I fruitlessly tried a number of home remedies, and even tried to get some information on writing my own driver for my Okidata printer (I was desperate!).

Then, at the last WARUG meeting, Robert Perry of Lotus listened to my tale of woe and said he'd look into it. Having heard

that before from others at Lotus, I was pleasantly surprised when, within a week, he sent along a new "Graphics Printer Library" with the suggestion that I try it. This disk, marked for the IBM and clones, Compaq, TI and Wang computers, contained their recently announced upgrade, adding twenty more drivers to the already-large IBM device menu. Following the enclosed instructions, I copied the single file "LOTUS.DLB" (for "device library") onto my working copy of PrintGraph. Even though the disk was IBM formatted, it was single-sided so the Rainbow read it easily.

I quickly generated and "saved" a Lotus graph (not having a DEC printer, I didn't have any ".PIC" files on hand) and called up the device selection menu from PrintGraph. Adreneline pumping, I saw my Okidata printer listed for the first time! Oh frabjous day!

I suddenly became the only Rainbow 1-2-3 user who could print graphs on a non-DEC printer. Why couldn't Lotus have told me this a year and a half ago? Any IBM version of 1-2-3 could have supplied LOTUS.DLB, and saved us both a lot of aggravation.

Rob Perry should be the president of Lotus!

Now back to earth, I am providing a copy of Lotus' new Graphics Printer Library to the WARUG library. The documentation included with Lotus' distribution disk states in part, "We hope that you will use the diskette we are supplying you with to update your own PrintGraph Disk and those of other 1-2-3 users in your company. Please feel free to copy the disk for other people in your company..." There is no indication of restricted use.

There is one caveat: this device library does not contain the LA-50 driver, only the LA-100. If you only use an LA-50, this will not help. If you use an LA-50 plus other printers and plotters, you will have to have two separate PrintGraph disks. If you use non-DEC printers exclusively, this is a godsend. [Postscript: On May 31 I got a call from a technician at Lotus, responding to one of my many previous letters. He told me that the Rainbow would only interface with DEC printers (false), and that the Rainbow version of 1-2-3 was only supplied for DEC printers. I cheerfully told him that a local Lotus person had solved the problem, and I explained how. I suggested that Lotus notify other users of this fix, but he said that they couldn't do that.]

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COMMUNICATIONS TIP
by Steve Jack

Using a communications program can be fun, especially when the software is free! But there can be some problems. For example, I use LCTERM and a Paradyne 2400 baud modem. For about 6 months I dialed just about every FIDO across the U.S. and I have the phone bill to prove it. I had very few problems until I started dialing the local FIDO. I noticed that some part of the pictures or text would 'fall off' the right side of the screen. I tried changing modems, I tried new software, but no change. I could not figure out what on earth was going on. I even asked some of the members of the LUG (Pacific Rainbow, Covina, CA) but no one could help. I finally got fed up and borrowed a data scope from my office(a data scope is like a CRT except that it won't act on any control characters, it only displays the data). I hooked the data scope up between the modem and the Rainbow and noticed that every time an "HT" character came across the data scope's screen, that segment of data was lost on my Rainbow's screen. (HT is a screen control character and stands for horizontal tab). As soon as I saw that, I went into set-up and checked for tabs. There were none! I put the standard tabs settings back in and that solved the problems. I hope this saves someone out there the weeks of aggravation that I went through. Have Fun!

Steve Jack is Co-Chairman of the Rainbow Pacific LUG in Covina, CA.

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USING A FIDO BULLETIN BOARD--NEARLY FOOLPROOF DIRECTIONS
By Caroline Mack

(To those of you who have never done this before: if I can do it, you can do it! Follow the directions and actually download some software!!)

In order to use bulletin boards, you will need to have a modem--just about any will do. You will also need software which allows your computer to communicate with the bulletin board. You don't need to spend a fortune on Crosstalk or PolyCom. The directions which follow are for DECMINI, a program which is available in the WARUG Public Domain Library. If you don't already have it, order Volume 34. (You could also download it from a FIDO bulletin board, but if you know how to do that, this article isn't for you.)

Once you have your modem and DECMINI, you are just about ready to go. Boot MS-DOS. Go into Set-Up, and set the following (some will be the default setting from the factory, and you need not change them if they are the same):

1. Under the statement of memory, there is another line which will say, LINE or LOCAL. Make sure it says LINE:

```
xxxK
LINE
```

2. Use the <Next Screen> key to move to PARAM SET. Use the right arrow to move across the parameters. Use the up and down arrows to change the parameters.

Parameter	Set # to
Emulation (Ansi)	1
Auto X-On/X-Off (on)	1
Local Echo (on)	1
XMT Break (enable)	1
Modem Stop Bits (1)	0
RCV Char Parity (check)	1
Auto Ansbk (enable)	1

3. While you are still in Set-Up, use the <Next Screen> Key to get Modem. Using the arrow keys, set Modem as follows (using 1200 baud or 300 baud, depending on your modem):

```
Modem

8N = Data/BP
300/1200 = XMT Baud
300/1200 = RCV Baud
FDXA = Protocol
```

4. To save your settings, type <Shift S> while you are still in Set-Up mode. (If you don't want to save them, don't do anything. They will disappear automatically when you turn the machine off.)

5. Get out of Set-Up, and type in

```
DECMINI
```

6. Turn on your modem.

7. Dial a bulletin board number (you'll find a list of them below, near the end).

8. Press <Return>. You will be asked to enter your last name, first name, and password.

9. Be sure to write down the password you choose (don't choose

your name for a password).

10. On some boards, you will be asked to fill out a questionnaire. Do it. On your initial call, you may be "restricted" in your ability to use the bulletin board. You can explore, but you may not be able to download any software. If the FIDO you've chosen won't let you have full priveleges immediately, your first "visit" is a good time to familiarize yourself with the FIDO system, which is very easy to use, and to read the message sections. You will get a short course (published in the last PC SIG Newsletter) on how FIDO works. The main thing to remember is that there are three areas, Main, Files, and Messages. Each has its own commands. The commands are single letters whose meanings are spelled out right above the prompt.

11. If the Sysop knows who you are, he may automatically upgrade you, or he may call you. Wait a day or two and call back. Follow the sequence above when you call back.

12. After calling back, you will be asked again for your password. Enter it.

13. After the FIDO logo and messages from the Sysop, you will receive the prompt for Main Commands. It will look something like this:

```
MAIN Commands:
M)sg-Section F)ile-Section G)oodbye
S)tatistics A)ns-Questionnaire B)ulletin  Y)ell  C)hange E)ditorial
V)ersion
Main M F G S A B Y C E V or ? for help
```

14. To find out what file sections are available, type

```
F (return)
A (return)
```

15. You will get a list of the File Sections Available which will be similar to this list (from Wash-A-RUG):

```
----- File Areas -----

 1 ... E:FILES\USER-DOC\On-line user documentation
 2 ... E:FILES\RAINBOW\PROGRAMS SPECIFIC TO THE DEC RAINBOW
 3 ... E:FILES\LISTS\FIDO nodelists and BBS lists
 5 ... E:FILES\FIDO\Rainbow-specific FIDO distribution
 6 ... E:FILES\FIDONEWS\THE FIDONEWS
 7 ... E:FILES\MS-DOS\MS-DOS Files
 9 ... E:FILES\FIDO-UTS\FIDO MAINTENANCE UTILITIES
10 ... E:FILES\UNIX\ MS-DOS Utilities with a UNIX(tm)
          flavor.
11 ... E:FILES\COMMO\Communications programs
12 ... E:FILES\USR-UPLO\User uploads (after they have been
          checked)
```

16. You will be asked to choose the file area that you want. Type in the number and (return).

17. You will get the following prompt:

```
File Area #2 E:FILES\RAINBOW\
A)rea-Change  L)ocate  F)iles  T)ype  G)oodbye  U)pload  D)ownload
S)tatistics M)ain-Menu R)aw-Display
File: A L F T G U D S M R or ? for help:
```

18. To get a list of the files available, type

```
F (return)
```

19. You will see something like this:


```
File Area #2: E:FILES\RAINBOW\

          RAINBOW FILES

These files are specific to the DEC Rainbow.  They may not work
properly on other micros.  They are marked as either CP/M or
MS-DOS.  Use of these on non-DEC hardware is not recommended.
         -------------

              MS-DOS

BUFFER.COM       1024 Increases Rainbow keyboard buffer size to 189
                      characters.

QIX.COM         28836 The arcade game.  From the Gnomes at DEC.

MONSTA.EQE       29824 A full-screen, arcade-quality, video game.
                       From the Gnomes at DEC.

RESETRB.COM      9771 Ever get your Rainbow stuck in graphics mode?
                      This program will set all attributes back to
                      normal.

AME86 is a DEC-written, copyrighted, public-domain package that
allows a Rainbow to run CP/M-86 programs under MS-DOS.

AME86.DOC       24562 Documentation for the AME86 package.
AME86.EQE        8280 AME86 itself.

SEDT.LBR        84480 A version of the VAX/VMS EDT editor that runs
                      under MS-DOS (using AME86) or under CP/M-86.
                      Everything you need (and more) is in this
                      library.  Written and copyrighted by DEC, but
                      public domain.

SEDTV12.LBR     MISSING This is the latest (MS-DOS only) version
                        of SEDT.  It is currently located in the
                        USR-UPLO file area.

DED.LBR           50048 Another full-screen editor for the Rainbow.
                        The library contains full documentation. It is
                        copyrighted, public domain, "freeware".  It is
                        really fast!

FV.EQE            5591 File viewing utility based on the DED editor.
FV.DQC            1519 Documentation for the above.

HISTORY.EQE       3712 Allows you to edit and re-issue commands
                       you have used.
HISTORY.DQC       2610 Documentation for the history command

ALARM.LBR              23040 Allows display of messages at scheduled
times.

FANCYEXE.LBR    61952 FPRINT and FEDIT along with documentation
                      (MS-DOS)
FANCYFON.LBR      52352 Font files for use with FPRINT.EXE and
FEDIT.EXE
FANCYSOU.LBR    52992 Source code for the above.

              CP/M

DOSFLX.CQD       28032 This utility allows you to copy files from
                       CP/M formatted disks to MS-DOS disks, as well
                       as from MS-DOS formatted disks to CP/M disks.
                       Much more powerful than RDCPM.

              BOTH
```

BOOT.LBR 16000 DEC written & copyrighted (P/D). Allows PC-100A owners to get the winchester boot menu. Also allows booting to another partition w/o rebooting the Rainbow. Contains documentation and MS-DOS & CP/M executables.

20. Write down the names of the files you want to copy. The number in front of each file description is the size of the file in bytes. (The length of the file determines how long it will take to transfer it across the phone lines.)

21. You will get the Files prompt back at the end of the list. If you want to download a file, type

D <return>

22. You will get the following menu:

```
Download File(s)
Transfer Type

A ... Ascii      K  ... Kermit
X ... Xmodem     XC ... Xmodem/CRC
M ... Modem7     MC ... Modem7/CRC
T ... Telink     TC ... Telink/CRC
? ... Help       Q  ... Quit

A K X XC M MC T TC Q:
```

23. At the prompt, type in

TC <return>

(Note: you can type the last two commands together: D TC, if you don't need the menu.)

24. You will be prompted for a filename. Type in the drive and the name of the file:

```
B:AME86.DQC <return>
<escape>
R <return>
*
```

(Escape is function key 11; R is the letter R, for receive)

25. You may need to press return again once or twice in order to engage the transfer program. Once it engages, you will get the following notation at the top of your screen (it will be all on one line):

```
AME86.DQC       awaiting data block
Block: 4  -----  Time Left: 5:38  ---- Tries Left: 10 --- (Telink)
(CRC)  ----------
```

26. The block and time figures will change as the file is downloaded. (If the transfer doesn't work the first time, and you run out of "Tries left", try again.

27. When the transfer is successfully finished, you will get the notation:

1 files sent OK

28. You will get the prompt in 17 again. If you want to download another file, repeat the process. You can move to other file areas using A (for Area Change) and download from them using the same process. When you are finished, type either M for Main Menu, or G for Goodbye. Before you log off, you will be given a chance to leave a note for the Sysop.

29. After you log off, and hang up, you will still be in DECMINI. To get out, type

<escape>
Q

which will put you back in DOS.

You should find the file in the drive you specified.

[A Note on DECMINI: To get the menu, type

<escape>

You will get the following menu (the newest version of DECMINI has an extended menu, not printed here):

```
---------------------------------
File Transmission and Reception

R .... Receive file(s)
T .... Transmit file(s)
N .... Select file transfer mode

Character and Line Protocol

F .... Full Duplex
H .... Half Duplex
M .... Line Feeds Off
N .... Line Feeds On
V .... Set parity

System

? .... List TELINK Status
C .... Collect Console Text
B .... Set Baud Rate
Y .... List Disk Files
S .... Stop Collecting Text
Q .... Quit to DOS
---------------------------------]
```

That's it! There are two things which may slow you down: squeezed files and library files. If you see a "Q" in the file extension (last three letters, such as ".EQE"), the file has been squeezed. If the file extension is .LBR, it is a library file. You will need to get USQ (an unsqueeze program) and LU (a library utility), either by downloading them or from the Public Domain Library, in order to use the files. USQ is on Volume 32, and LU is on Volume 31.

You can also use DECMINI to transfer files between two Rainbows, or between a Rainbow and any computer which has a version of Minitel on it.

(c) 1985 by Caroline M. Mack

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RAINBOW QUESTIONS AND ANSWERS

Send your questions (along with the answer if you have one), to the editor. If there is no answer with the question, she will attempt to get answers. Be sure to explain the problem clearly and include complete information on how you can be contacted, including name, address, home and work telephone.

Q and A on DBASE II, V. 2.41 (not the DEC-Classified version), contributed by Mark Winston of the Washington Area Rainbow User's Group:

Q. When running the INSTALL program, it crashes repeatedly with an "ILLEGAL PARAMETER" message, and returns to the operating system. What could I be doing wrong?

A. You need to answer the INSTALL questions using UPPER CASE letters.

Q. A legal REPLACE. . .NOUPDATE command keeps returning the DATA ITEM NOT FOUND error message. Why?

A. Despite the instructions in the manual, NOUPDATE must be specified before any FOR clause.

Q. The command FIND &x does not work right when x includes leading blanks (originally mentioned in the August-September Newsletter). What can I do?

A. FIND strips leading blanks before seeking a %% match when x is a variable, but preserves leading blanks when FINDing quoted literals. So use FIND '&x' instead of FIND &x if there is any chance x could contain leading blanks which must be preserved for matching purposes (e.g., when building a concatenated key.)

From Jay Bassin:

Q: When using MBASIC, where is the name of the program stored in memory?

A: In MBASIC, the name of the program in memory is stored between memory locations 418 to 428. To ask the name of a program (in case you forget), type the following command all on one line:

```
For I=418 to 428:PRINT CHR$(PEEK(I));:NEXT
```

From Tom Tugman:

Q. What is the difference between a "compiled" language and an "interpreted" language?

A. A computer language is the vehicle which allows you to conveniently give the computer a list of instructions to execute (usually called a program or code). The computer cannot understand the program until it is translated into binary code (sometimes called machine language). The compiler translates the program into binary instructions which can be understood directly by the computer. In a compiled language (for example, some versions of COBOL, Fortran, Pascal or C), the compiler creates an "object module", a group of binary instructions, which, if saved, can be reused without being recompiled. The object module can be run independently; the original language need not be present. An interpreted language (such as BASIC), also contains a compiler, but it translates the program code instruction by instruction, executing each instruction as it is translated. No object module is created. Each time the program is run, it must be translated again, so the language must be available or the program cannot be run. Because the program must be recompiled each time it is executed, programs written in interpreted languages tend to be slower. They are also less portable.

From the St. Joseph's University Rainbow User's Group Newsletter:

Q. Can I use single-sided, double-density 48 TPI disks on my Rainbow even though it calls for 96 TPI disks?

A. Most (if not all) high quality 48 TPI disks will work. Some brands which have given good results are Verbatim and Maxell. If the disks format without difficulty, they will probably work. Don't use them without having backup disks for all of your important programs or data.

From the San Francisco DEC PC LUG:

Q. Is there a clock/calendar board available for the Rainbow?

A. Don Brauns of Rainbow Data, Inc., (Culver City, CA) had developed an internal clock and calendar board for the Rainbow which will allow both CP/M-86/80 and MS-DOS to read the date and time automatically upon system start-up. The board is presently being tested by DEC so that Don can offer it as a third party add-in without endangering the warranty rights of Rainbow owners who install it. It was expected to be in production and available late in July or in August. (Will Roberts)

Q. How can I run the printer as a "Logging Device" while I scroll along in LC-TERM? The Print Screen key dumps the current screen, but does not enable the printer like Control P does at the operating system level.

A. Call up the main menu, using [Control-Main Screen], select option 4, "Raw Text File Transfer Menu," then select option 1 "Log terminal output to a file." At the file name prompt, type the printer's filename: "prn". Go back to terminal mode; you will be logging to the printer. To stop logging, select the "Close Log File" menu item. (Stuart Fuller)

Q. Is Unix, or a Unix-like operating system available for the Rainbow?

A. Rainbow VENIX is available from

VenturCom, Inc.
Unisource Software Corp.
71 Bent Street
Cambridge, MA 02141
(617) 491-1264

According to the description, you can run foreground and multiple background tasks, and it requires 256K and a 10 meg hard disk. There is also a program called, Co-Idris, which is apparently a UNIX look-alike, multi-tasking operating system that can co-exist with MS-DOS on the Rainbow's hard disk so users can run applications from both operating systems. Co-Idris requires 128K and a hard disk. It is available from

Whitesmith's, LTD.
97 Lowell Road
Concord, MA 01742
(617) 369-8499

(Michael Bowers)

RAINBOW WISH LIST

This is a very short list. If you have items to add to it, send them either to the newsletter editor or the Rainbow Working Group Chairman, Lynn Jarrett.

1. IBM compatibility
2. Upgrade to PC compatibility
3. Ability to cheaply upgrade from a 100A to 100B
4. Ability to format a single sided IBM-PC disk under MS-DOS
5. VT2XX support
6. VT131 support
7. TECO
8. Portable or Lap Rainbow
9. Print Drivers for non-DEC printers
10. Full graphics capability for All-In-One
11. Full file transfer support (not third party)
12. Hard disk controller cards available as spare parts
13. Make lists of DEC PC users in specific geographic areas available to help form User Groups
14. Rainbow LAN with out the need for a VAX
15. Ethernet/DECnet communications
16. Ability to share the same hard disk between several Rainbows
17. Removable hard disk
18. 33 and 70 meg hard disks
19. Hard disk backup, both internal and standalone
20. Make larger hard disks available without having to remove 10 meg internal hard disk
21. Regis: make Rainbows with graphics cards and Poly-Regis return a 1 instead of a 0 when you inquire from All-in-1 with DA$terminal
22. Battery operated internal clock (see above)
23. Rainbow version of ThinkTank software
24. Sell Rainbows in national chain computer stores
25. Carry Rainbow software and hardware at DEC Business Stores
26. Rainbow "Draw and Paint"
27. Software for children
28. TPU
29. Implement print screen so that it works with all software programs
30. Genealogy software
31. Utility which will crack copy protection schemes so the programs can be put on hard disks and/or back up copies can be made
32. Concurrent MS-DOS
33. Compiler version of GW BASIC
34. Q-BUS for the Rainbow
35. Sidekick for the Rainbow
36. Product support for simultaneous dual-screen operation for applications programs such as LOTUS
37. Take copy protection off of DCS and DDS programs

RAINBOW TO DECMATE AND BACK USING POLYCOM

By Alex Garbera

There may be occasions when you want to send a document from a DECmate to a Rainbow, or from a Rainbow to the DECmate using PolyCOM communications software. The DECmate has the capability to use the same communications package, but this is not necessary for sending and receiving text files.

Since WPS word processing has a character transmission package built into it, these transfers are easy. Here is just one example of how it works. To begin with, both the DECmate and the Rainbow must have the same communication parameters; that is, have the same Baud rate, data bits, stop bits, and parity. For example:

No parity
8 databits
1 stopbit
1200 Baud (can be any other rate from 300 to 9600 depending on the modem or the distance of the cable.)

These parameters can be set up in the Systems Option (SO,CC) menus of the DECmate and under the communications menu of PolyCOM.

DECmate to Rainbow

To send a text document from a DECmate to a Rainbow, the procedure is as follows:

1. Create a document such as this:

```
_____START CONTROL_____
CX
EOL CR LF
_____END CONTROL_____
```

Note the number of the document and file it. This document will send a carriage return and a line feed at the end of every line.

2. Specify this as a control document by going into the system options menu (SO) and type "CD" with a space and the name or number that you just created.

3. On the Rainbow side, make sure that the "Communications" menu matches the DECmate parameters, and the "Console" menu is in ANSI mode with "crlf" as the new line mode. In the "Host" attributes menu, the EOL Sync must be set to None, and CR Action as "crcr" (no spaces).

4. With these settings in place, the user can go into terminal mode and presses "Select" "r" to receive a file and give it a file name.

5. Go into the "CX" menu of the DECmate and specify "DH" to send a document to the host. This can be any document that have previously created.

Remember that you are sending a document through the communications port, and not to the printer. This method will cause the loss of special features such as bolding, superscripts, special rulers with word-wrap tabs, etc. It's great for centered text and blocks of information.

Rainbow to DECmate

To send a document from a Rainbow to the DECmate:

1. The DECmate CX menu can be set to "HD" host to document. Give the document a name and press return.
2. go into the PolyCOM terminal mode and "Select" "S" to send a file and specify the name.

Sending text files is that easy. It may take a little coordination between the two users, but it's nice to know that DECmates and Rainbows can talk and share information.

To transfer more complicated files, such as CP/M programs and non-text files, the DECmate will need a CP/M or XPU board and the same PolyCOM software using the XFR and HST functions.

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DECMATE II WPS Version 2.0 Fix
by Cheryl Johnson

One feature of WPS Version 2.0 that everyone has found annoying is the problem with editing a wide document. Instead of automatically going into the wider ruler with compressed characters, it stays at 80 columns and you shift between 'regions' by advancing past the 80th character. Most, if not all, of the time, it is more convenient to view all of the text at one time. It is a real bother to have to change something in a menu to do that everytime. So I have designed a user-defined key (UDK) to automate the sequence of strokes necessary to get to the wider ruler.

To define the UDK, from the Main Menu, type DK, press the space bar, type a number between 1 and 9 (which will be the number you use to activate the UDK). Press return, then type in the following key strokes:

Gold M
SW Space Wide
(Return)
(Return)

Press Gold Halt (the Halt key is just above the Tab key) to end definition of the UDK.

To use your UDK, edit the document you want to view in the wide mode. Press Gold and then the number you defined above. The stored sequence of keystrokes will be executed. When you file the document, the screen will automatically return to narrow rule. The UDK will remain stored on your system disk until you redefine the number.

(Cheryl Johnson, of the Grinnell College Office of Computer Services, is the DECUS PC SIG's DECmate Working Group Chairman.)

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DECMATE NOTES FROM DECUS NEW ORLEANS
by Cheryl Johnson

--TypeEasy was announced, and is expected to be available in June or July. It is targeted for DECMate III users with LQP03's, but will work on the DECMate II with other DEC printers. TypeEasy gives the DECmate capabilities similar to those on a typewriter. For instance, it can be set so that the printer prints letter by letter, just as a typewriter does, or to print line by line, for used in processing forms.

--The DECmate does support the LN03, but it does not support special functions, such as font loading.

Minutes of the DECmate Working Group Meeting:

Members were introduced.
The following items were discussed:

--The DECmate wishlist

--Technical Documentation for OS278 (part number)

--Larger Personal Dictionary with XPU board or replacement of words in the main dictionary

--Identification of differences between CP/M and MS-DOS between the DECmate the Rainbow

--Identify specific software that will work on the DECmate

--Identify specific software that will work on the Rainbow

--Identify specific software which works on both Rainbow and the DECmate

--Foreign printer ability (DEC response: "thinking about it")

--VT102 emulation for the DECmate (DEC response: "priority for future versions of WPS")

--inability of the screen width wide feature to reset itself

--possible sessions in Anaheim to be sponsored by the PC SIG

- DECmate Technical Q and A
- DECmate as a PC
- DECmate Office Workstation Script Processor

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DECMATE QUESTIONS AND ANSWERS

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From Perspective:

Q. How do I load CP/M on the DECmate hard disk with Master Menu?

A. Boot the CP/M INSTALL disk (CP/M 2.2, Version 2.0 INSTL BIN RX50) in Drive A and do the following:

1. In response to the prompt for installing CP/M on the hard disk, choose H and press "DO".
2. In response to the prompt for creating a new CP/M volume, choose C and press "DO".
3. When prompted for a volume name, enter the name and press "DO".
4. When prompted for a size, enter a size, keeping in mind that some CP/M files consist of 200K.
5. After the system copies the CP/M utility programs, press "SET-UP" and "REMOVE".
6. Remove the INSTALL disk.
7. Press "DO" to boot the hard disk.
8. At the Master Menu, press "NEXT SCREEN".
9. In response to the prompt to create a TAG, choose MM and press "DO".
10. Position the cursor on End of List and press "INSERT HERE".
11. Put in a three-letter TAG.
12. Hit the down-arrow key for the next item. Type in LEGEND.

Q. While list processing with WPS-8, I receive an error message indicating I have too many characters in a record. How can I correct this problem?

A. The maximum number of characters in a record is 2,049. If your record does not exceed 2,049 characters and you receive this message, you probably omitted a closing diamond (<>) to end a record. If a record does have too many characters, you can use the following method to shorten the record by shortening the field names. Use the old list, create a spec document saying "process record", and create the following form document:

```
<<new name><old name>
<<new name><old name>
<<>
```

Print to a document and use the resulting document as your new list. For example:

(old record)

```
<employee name>
<employee address>
<employee salary>
<years with company>
<>
```

(new form)

```
<<n><employee name>
<<a><employee address>
<<s><employee salary>
<<y><years with company>
<<>
```

(new record)

```
<n>
<a>
<s>
<y>
<>
```

Q. Sometimes while using Multiplan, when I try to copy a formula, the wrong value is copied instead of new calculations being made as a result of copyng the formula. What could be wrong?

A. Check your options command and check to see if recalc is off. Also make sure that the cells which will receive the new calculations are blank. Press the shift key followed by the ! to recalculate values based on the formula.

Q. I tried to convert a Multiplan file created under CP/M 80 to a WPS file and thought I followed the directions in the CP/M User's Guide under WPSCONVERT. However, when I went to edit my new document under WPS, there were only garbage characters on the screen. Why?

A. You probably did not run PRINT FILE from your Multiplan spreadsheet first to create an ASCII file or you did not use the correct name of the new ASCII file created. When you use PRINT FILE, name the ASCII file differently from the name which you gave the spreadsheet.

Q. Can I format a cell under Multiplan using the dollar sign ($) without the two decimal places?

A. The two decimal places are a default in the software and cannot be modified.

Q. How can I print a CP/M file on the printer from the CP/M operating level?

A. Use the PIP command: PIP LST:=<filename>
(LST is the name assigned to the physical device for the printer.)

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DECMATE WISH LIST

If you have items you want to include on the wish list, send them either to the editor of the newsletter, or the DECmate Working Group Chairman, Cheryl Johnson.

1. Global search and replace: the ability to do more than one search and replace string at a time.

2. Text wrap: text should automatically wrap when editing so that the user doesn't have to advance through it.

3. Additional paste buffers: the ability to save and rearrange multiple segments of text at the same time.

4. Spelling error detection: the ability to check spelling of text easily and accurately without using CP/M (to be included on DECmate word processing software, possibly as an optional feature), or rearranging document in any way. The current DECspell is very slow and doesn't seem to be very reliable.

5. Simple math logic: the ability to have five-function math (addition, subtraction, multiplication, division and percentages) on DECmate word processing software, possibly as an optional feature). Would like the ability to check columns of numbers and perform simple math operations with a minimal number of keystrokes. The current math software seems very complicated to use.

6. UDKs: the ability to actually do the UDK as the user is setting it up, not just displaying the typed keystrokes.

7. UDKs: the ability to edit existing UDKs which have already been filed.

8. ENTER key: would like it moved closer to the normal typing keyboard.

9. Print specific pages: the ability to print any specified page when reset pages are used; ie., print section II, page 8.

10. Graphics: the ability to easily draw vertical and horizontal lines around text that will print out to form boxes and charts, to be an inclusion in DECmate word processing software.

11. Background transmission: the ability to continue to use the system while transferring documents from the VAX, converting documents, using list processing and other foreground functions.

12. Working with a "COPY" document on disk, not the actual copy, so that if the user messes up, the orignal can be recalled to use again.

13. Multiple wraps: the ability to have multiple wraps so the user doesn't have to keep changing rulers; possibly by using the GOLD TAB to indicate the specific tab wrap that you desire at that time.

14. Sub- and superscripts displayed: show sub- and superscripts on the screen by actually moving the character up and down.

15. Printer stop: the printer should have the ability to detect when the ribbon breaks (not just runs out), and stop.

16. Printer detects paper out: the ability for the printer to detect when no paper is in the printer so it will not print on the platen.

17. Hard disk volumes: the ability to choose the size of segments on the hard disk, instead of having to break it up into 7 small volumes.

18. Software "q" problem: the ability to use GOLD SEARCH PAGE or GOLD PAGE BOTTOM without worry that a hidden "q" will be put in the document to cause various problems.

19. Screen scrolling: have screen scroll a single character at a time in wide documents, rather than jump.

20. Local software support: provide local support to help with special set-ups and problems. Sometimes you need someone to actually be there and share ideas with, not just a voice over the phone.

21. Wide screen setting to stay with the document: With version 2.0, giving users the ability to change the size of the screen. 2.0 does not allow the wide screen to be stored with the document. The chosen setting should stay with the editor menu (narrow or wide), to be stored with the document.

22. Cutting text of any size: to have the ability to cut any amount of text, possibly by making saving and cutting separate functions. That way, since the system wouldn't be saving it, the size of the text to be cut would not matter.

23. Replacement charactes on draft printer: the ability to print replacement characters on a draft printer going through communications, particularly double underscores.

24. Advance forward: to be able to advance directly to the end of a word, sentence, or segment of text.

25. Document view while printing: the ability to view or edit a document while other pages of it are being printed.

26. Multiple simultaneous print queue: the ability to queue several non-consecutive pages of a document to the printer at the same time: ie., queue pages 2, 6, and 8, or at least to be able to send page 8 of a document to the printer while page 2 of the same document is printing, so you can then work on something else.

27. Underlines recognized as part of a word: the ability for the DECmate to recognize underlines before text that are entered using select and the "UNDERLINE" key to be recognized as part of that word, i.e., 846. This would make the system back up to the beginning of the underlines when "BACKUP WORD" is pressed at the end of the word/number or delete the word/number with underlines consecutively when "DEL WORD" is pressed.

28. Larger capacity in DEC DX account: the ability to put more than 200 documents in a DEC DX account, up to 999 or so, if limited by three digits.

29. Recreate index: the ability to automatically recreate the index of a DEC dx account if it becomes corrupted.

30. Caps lock sound recognition: a different key sound when the LOCK key is on to signal the operator the lock key is on.

31. Replacement character view: the ability to see numbers/characters which have replacement characters, such as double underscores, onscreen.

32. Gold GRT DOCMT PAGE: use GOLD GET DOCMT to get only certain specified pages of a document.

33. Page markers: page markers not to be removed when rulers or text are changed.

34. Delete page key: the ability to delete an entire page at a time, allowing the operator to verify deletion of the page.

35. Double underscore with decimal tabs: the ability to use double underscoring with decimal tabs without having the text move over.

36. Simple column logic: the ability to set up multiple columns on a page by putting more than one set of margins on a page, also, allowing the use of the sheetfeeder during multi-column printing, since the page would not be going up and down.

37. Column centering: the ability to easily center headings over a column of text.

38. A place to get detailed information addressing software for wierd applications, such as PDB real time data acc replacement.

39. VT131 and VT2XX support.

40. A way to split out DX and compite it into OS278 (DECUS version).

41. Address comm port under COS 310.

42. Ability to use print screen with FMS forms that have line drawings.

43. Full compatibility with the LA210 and LN03.

44. Elimination of hard returns when transferring a WPS+ document from the VAX to the DECmate.

45. Capability to put escape sequences in a document, e.g., print a line at 5 characters per inch, then print the next one at 10 characters per inch, etc.

46. Support printer as a local printer, such as "VT100 printer port escape sequence."

47. Gold Q for Quit on DECmate and Rainbow WPS+.

48. The new 'search forward or backward' is great, but the user can't change direction after it is chosen. Go back to the old way.

49. Ability to use non-DEC printers.

50. The ability to call up the index in alphabetical order by document name.

51. The ability to use the system while doing list processing.

52. The ability to add information on to the end of a paste buffer before pasting, ie., cut a paragraph, then on the next page, add that to another paragraph, cut again, and past both paragraphs elsewhere, in one operation.

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PDL: AN ONLINE PUBLIC DOMAIN LIBRARY FOR SCIENCE AND RESEARCH APPLICATIONS
by Linda Rosenthal

Digital's Laboratory Data Products Group in Marlboro, Massachusetts, has developed an on-line library of public domain research applications. The applications can be downloaded to users over the telephone lines with a 300 or 1200 baud modem and appropriate communications software.

The library is not affiliated with DECUS. It was established to serve as a focal point for applications and tools specifically intended to help the scientific researcher. In addition to providing a portfolio of FREE research applications and tools, the library has a public bulletin board facility which allows users from different laboratories to post and respond to a wide range of technical issues as well as to share information about software from other sources.

Laboratory Data Products (LDP) encourages contributions to the library. DECUS was very cooperative in getting us started almost a year ago by allowing us to place some of their research applications in our library. Since that time, contributions to the library have more than doubled, with the majority of the software aimed at the PRO 350. It is anticipated that the library's portfolio will be expanded to include applications and tools for other Digital processors used in the laboratory, including the Rainbow, MicroVAX, and VAX. In addition, pointers into other databases of public domain software, such as NASA's COSMIC library, Argonne's National Energy Software CENTER, and DECUS are also expected.

PDL is a dynamic database, and for that reason, does not publish or distribute a catalog. To find out what is in the library, you need to dial into the system. Following login to the PDL, there will be a short pause before the MAIN MENU appears on the screen. Options available on the MAIN MENU include:

*NEWS --a collection of short articles and information on hardware and software products for Digital computers

*NOTES --a public bulletin board facility for posting and responding to product issues

*SEND --a "private line" to Laboratory Data Products management

*DOCUMENTATION --listing of documentation available for the PRO 350

*APPLICATIONS --a choice that leads to a secondary menu which allows you to peruse application abstracts and/or invoke the file transfer utilities available on PDL. The APPLICATIONS MENU lists major categories of applications such as Graphics, Report Generations, Database Management, Instrument Control, and Compiler applications.

Transferring software from the Public Domain Library to your Digital computer is relatively easy. Any one of several file transfer protocols can be invoked from the library menu, including PFT (from Digital), Poly-Xfer (from Polygon), and KERMIT (from Columbia University). Kermit is one of the applications available from the library. It is a popular communications package of considerable power and elegance which allows users to copy both source (ASCII) and image (binary) files under an error-free protocol. Kermit is available for VMS, PRO/VENIX, P/OS, CP/M, MS-DOS, TOPS-20, RSX11M, RSTS, and RT-11, among others.

To use PDL, call (617) 467-4824. To log onto the system, respond to the system prompts as follows:

Username: PDL
Password: PDL

If you have any questions, comments or suggestions concerning the PDL, call Laboratory Data Products at (617) 467-6057.

Linda Rosenthal is a Senior Marketing Communications Specialist with DEC's Laboratory Data Products Group.

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REQUEST FOR PRO-300 SERIES ENHANCEMENTS
by Thomas R. Hintz
Chairman, PRO Working Group

Use of the PRO-300 series microcomputer continues to grow. The PRO finds its way into many diverse areas and has found favor with many users because of its ability to support several languages, and provide both the experienced and inexperienced user with a comfortable environment in which to work. Many existing applications can be easily ported to this machine.

Along with its use, however, comes an increasing number of requests for modification and upgrade. Since all PRO-users have a common interest in the future development of the PRO-300 series of micros, the PC SIG has started a wish list. Since a public list does not exist, I have been collecting wish list requests over the last month. During the New Orleans DECUS Symposium, the list has almost doubled in size. The variety of requests shows a desire for a broad range of future product enhancements. The broad spectrum of interest for the PRO was evidenced by the large number of SIGs which sponsored sessions related to the PRO. A total of eight SIGs gave more than 35 presentations.

The list below is presented in its entirety, but is NOT prioritized. Most of the requests are quite specific. Where the meaning was not clear, the wishes are listed as they were submitted. If you wish to clarify a particular item, please feel free to add to the description. We will continue to add to the list as new items are submitted. Any items that are important to you which are not on the list should be sent to me for inclusion. To continue this process we need to bring some order to this random list of suggestions. You, as a user of the PRO, should have an opportunity to determine their order of importance. Now is your chance. At the end of this newsletter is a form (ballot) to cast your votes. Each item is numbered. Number each wish to show what you consider to be the items of highest priority. Vote for as many items as you like, but number them from highest (1) to lowest priority. After the ballots have been returned, the results will be tallied, reported in the DECUS PC SIG Newsletter, and presented to DEC for their review. Now is your chance to be heard. VOTE TODAY before you forget.

WISH LIST ITEMS

1. RT-11 emulator executing under P/OS
2. BUS extension to provide more expansion slots
3. Streaming tape backup
4. Standalone backup
5. External disk(s)
6. Wild card specification for PFT
7. Warm restart for P/OS
8. Startup detect of battery backup status
9. Instructions for deleting unused application options to conserve disk space
10. Menu item to execute infrequently used applications from disk so that install/deinstall is not required
11. VAX server for cluster of PROs
12. Terminal emulation with full VT24X (e.g. downloadable characters, etc.)
13. DECNET command terminal should be compatible with VMS 4.x (e.g. should allow command line editing)
14. DECNET support for the communications port
15. Ability to spawn a BASIC compilation
16. Batch spooling facility on toolkit for compilation/link

17. Ability to connect two hard disks to to the bus, preferably utilizing the same controller.
18. Ability to dial into the TMS and the communications port from a remote terminal
19. PRO/FMS compatible with VMS/FMS
20. More compatibility between FMS screen control keys (function keys) and the P/OS menu control keys (e.g. P/OS uses the HELP key for help while FMS uses the PF2 key, etc.)
21. Disk formatting capability
22. Access to the DZ driver or the ability to use the other track/sector combinations supported by the RX50 controller
23. Disk compression utility
24. A method of finding out what files to move to recover contiguous disk space so that a complete reload is not required to unfragment the hard disk
25. A search command similar to what exists on VMS for finding text strings in a file or files
26. TPU (Text Processing Utility) for P/OS like the announced but not yet delivered text editor for VMS.
27. A more elaborate PRO/COMMUNICATIONS that makes full use of the TMS and voice box
28. Full window/multi-task support for user developed applications (i.e. SIDEKICK)
29. Enhanced CAD software (not Design Graphics Executive!)
30. DCL sources on Toolkit
31. Reliable PASCAL compiler
32. Complete documentation and listing of the VT102 and GIDIS (TFW) code
33. Graphics from VAX using PRO/COMMUNICATIONS V2.x
34. Maintain color setting when going between menus
35. A better DEC LANDER!
36. Asynchronous dial-up DECNET
37. Full VT125 emulation
38. Full DECGRAPH/DECSLIDE support
39. MENU sources
40. Output CORE graphics to GIDIS files (from PRO/BASIC)
41. PRINT SCREEN to a GIDIS file
42. Image backup of Winchester disk
43. Removable hard disk
44. Virtual terminal support
45. BATCH processing support
46. I D space support for 325 and 350
47. Supervisor mode support for 325 and 350
48. Larger buffer for drawing complex filled figures
49. Warm restart of P/OS
50. SIGHT-rotation of figures and text
51. GIDIS to/from NAPLPS conversion
52. GIDIS to REGIS conversion
53. HELP on floppy, less on hard disk
54. Master index to toolkit documentation
55. Complete documentation set, etc. on laser disk (with cross index)
56. Extending graphics for PRO/BASIC
57. Graphics support over DECNET
58. FPJ-11 floating Point for 380
59. Videotex creation
60. SIGHT-convert multiple objects into single one
61. Coexistance of multiple OS on a single hard disk for each to run in native mode
62. DECNET support under RT-11
63. Do not clear screen after logoff with PRO/COMM TMS

(Tom Hintz is an entomologist with the University of Florida, and long-time chairman of the Pro Working Group.)

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ROBIN (VT 180) NOTES

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by Richard D. Ferguson

--Jurgen Steiger of Zurich has written a program which will allow a Rainbow to write a floppy disk that is Robin-readable. For more information, contact John Comella, Robin Owner's Group, P. O. Box 492, Rollingsford, N. H. 03869.

--Exceptional Business Systems has issued version 1.3 of WPS-80, which provides bug fixes for earlier versions and new features, including printer support for the LQP03, LA210, and others; printer commands to change pitch, select sheet feeder trays, include escape sequences; ability to strip hard carriage returns in a CP/M document; improved super- and subscript handling; improved up- and down-cursor keys; and footnotes of up to 1000 characters. It also has list processing and mail merge. Although there is no math or sort, but it will allow the selection of certain records for merging selected fields. For Robins with RX50 floppies (80 track), it has a format converter which will convert from WPS-8 to WPS-80.

--Sources of VT-180 Soft-ware. Current concerns of Robin owners seem to focus on the availability of applications software--accounting, financial, utilities, etc., most of which is being sold at discount for CP/M. The original DEC CP/M Applications Software Referral Catalog for ROBIN lists most of the compatible packages that are available in VT-180 format, but many of the really useful ones (e.g. dBase II) are not listed. Here are some clues to help you find what you want:

1. All standard CP/M applications will usually run on the ROBIN; the best alternate disk format hat (I have found is the Kaypro II format. It converts to the VT-180 disk format and causes no loader problems. It is a format that almost all dealers stock for most CP/M software packages. Many are now heavily discounted. With the declining number of VT-180 disk formats being carried, this is a good alternative.

2. Ken Heyda's MULTISYSTEM program is a path to non-ROBIN software; it enables you to copy/convert programs from other system's disk formats, and offers broader software choices. It is worth every penny it costs ($70), and will pay back the investment in applications software. there are other format conversion programs (MediaMaster, Multidsk) and with dealers no longer supporting VT-180 format, ROBIN owners are should not be without one of these essential tools.

3. Much free software is available through Bulletin Boards, other CP/M user groups, and the National Public Domain Software Center.

Richard D. Ferguson is editor of the Robin Owner's Group Newsletter. This was excerpted from that Newsletter.

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DEC-SPECIFIC COMPUTER MAGAZINES AND PUBLICATIONS: WHERE HAS THE RAINBOW GONE?
by Caroline Mack

Over the past several months, the Rainbow (not mention the PRO or DECmate) has virtually dropped out of sight in most publications. Two magazines which were originally dedicated to the Rainbow and Pro, Digital Review and Personal and Professional, have changed radically. Digital Review has drastically reduced Rainbow coverage, and mixes the small amount of coverage it does have in with coverage of VAXES and the complete range of DEC minicomputers. Personal and Professional has ceased publication, except as a small set in section in The DEC* Professional.
Here is what is currently available:

Magazines:

The DEC Professional Plus Personal: (monthly) primarily covers VAX. The "Plus Personal" section takes the place of Personal and Professional magazine which is now defunct. Typically there are a couple of articles and reviews, a list of Rainbow User's Groups (changes each month), and a list of companies who supply software (they pay for the privilege of being listed). It does have a new product section. Few Rainbow software advertisements. Even though the Plus Personal section is small (24 pages in the next issue), because it appears monthly, there may be nearly as much information as there was in the bi-monthly, anemic Personal and Professional. The "Plus Personal" version of the magazine has about 10,000 subscribers. Subscription: $21/year (12 issues). For more information, contact The DEC* Professional + Plus Personal, P. O. Box 362, Ambler, PA 19002-0362, (215)

Digital Review (monthly) also primarily covers VAX equipment, but it does still carry some Rainbow related articles. The April issue, which is fairly typical, had an article on adventure games which are available for both the Rainbow and the PDP-11. It did mention PCs--IBM PC's, that is. There is a new product section (Rainbow products are mixed in with all the others, so it takes a while to find them) and a section on DEC news. Oddly, the question and answer column (Tech Talk) usually has more Rainbow questions and answers than VAX. Few Rainbow software advertisements. Very slick looking. Subscriptions are free to those who qualify; otherwise they are $29.97/year (12 issues). For more information, contact Digital Review, fourth floor, One Park Avenue, New York, NY 10016, (212) 503-5110.

HardCopy (monthly) also concentrates on Digital's larger systems, but it appears to be increasing coverage of the Rainbow (they estimate that there are about 30,000 readers with Rainbows). It has recently added a PC question and answer column. There is an ongoing list of user's groups. The February issue, which seems fairly typical, had an article on Rainbow tax programs. Subscriptions are $16/year (12 issues). For more information, contact Hardcopy, Seldin Publishing Co., P. O. Box 759, Brea, CA 92621.

Newsletters:

Perspective is DEC's quarterly newsletter. The glossy 48 page publication is particularly notable for its extensive Question and Answer section on DCS software. Source of DEC Product Line Information. Free. For more information, contact Perspective, Digital Equipment Corporation, 40 Old Bolton Road, Stow, MA 01775.

DECUS PC SIG Newsletter (this newsletter) is the quarterly newsletter put out by the DECUS PC SIG. Starting September 1, all DECUS SIG Newsletters will be folded into one large monthly publi-

cation (estimated cost is $35/year. For more information, call Carol Dunbar at DECUS, (617) 480-3418.

Several Local User Groups put out newsletters. Here are some:

The Washington Area Rainbow User's Group Newsletter (monthly, except August), 16-24 pages, features articles, question and answer, and software reviews. It is monthly except August. Currently free.

The Boston Computer Society DEC Personal Computer User's Group Newsletter has recently resumed publication. Edited by Anu Pareek, 3 pages. Notes from the group's chairman, meeting notes, reviews, and advertisements.

The Delaware Valley DEC Personal Computer User Group News (five times a year), 12-14 pages, edited by Tom Deahl, features articles, editorials, and software reports.

The Hartford (CT) Rainbow User's Group Newsletter (quarterly), 4-12 pages, edited by Jean Whitney. Features meeting notes, articles.

The Mid-Tennessee DEC PC LUG Newsletter (monthly), 3-4 pages, edited by Donald Goss. Features notes from the editor, meeting notes, articles.

The Northeastern Connecticut User's Group Newsletter (monthly), 6-18 pages, edited by Wilbur J. Widmer. Articles, how-tos.

San Francisco Bay Area DEC PC User Group News, 4-10 pages, edited by Dale Miller.

Santa Barbara, Ventura, San Luis Obispo County Area DEC-PC Local User's Group Newsletter (quarterly), 2 pages, edited by Rick Vincent. New.

Silicon Valley Digital PC User's Group Newsletter (monthly), edited by Bill Horton. Meeting notes, occasional articles.

St. Joseph's University Rainbow User's Group Newsletter (4-7 times a year), 4-6 pages, edited by Val Herzfeld. Information.

University of Pennsylvania Meeting Notice (monthly), 3-6 pages, edited by Bill Gavelis. Information, articles.

Robin Owners Group (ROG) Newsletter (?), 10 pages, edited by Richard D. Ferguson. Information, articles.

For ardent and wealthy DEC-watchers, Adolf (Sonny) Monosson puts out two informational DEC related publications in addition to the quarterly Monosson's DEC* -Compatible Buyer's Guide:

Monosson on DEC*, (monthly) a newsletter which covers DEC related topics in depth. The DEC PC's are infrequent topics. The newsletter is available for a steep $395 /year from Monosson on DEC*, P. O. Box 71, Kenmore Station, Boston, MA 02215, (617) 267-2900.

The newest Monosson publication is Monosson's DEC* Market Weekly (50 issues a year) which covers current DEC topics. The issue I saw had very timely information which was not published elsewhere. The subscription fee is $245/year. For more information, contact Monosson's DEC* Market Weekly at the address above.

Other sources:

Computers-R-Digital is another DEC related publication, which appears to be half-way between a newsletter and a magazine. Monthly. It consists of articles on DEC. Since I haven't seen a recent

issue, I don't know what the percentage of Rainbow related articles and advertising is. Subscriptions are free to those who qualify, otherwise are $15/year (12 issues?) For information, contact Directory Database, Box J, Navesink, NJ 07752, (201) 291-1208. If you just want to look up articles on a specific topic, try the Microcomputer Index, put out by Microcomputer Index Company, P. O. Box 50545, Palo Alto, CA 94303, (415) 948-8304. The Index is available both in hardcopy and on-line through Dialog (File #233). The magazine version costs $60/year for a subscription (it comes out 6 times/year). It indexes articles from about 75 sources, 40 of which are popular computer magazines, and abstracts some articles. The Index has recently been taken over by a new company, and is still trying to catch up. The on-line Dialog version has articles through October, 1984 indexed, but should soon have November-December. Once 1985 is up to date, the on-line version will be updated monthly.

(This article originally appeared in the WARUG Newsletter.)
(c) 1985 by Caroline M. Mack

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WHAT WOULD YOU TELL DEC IF YOU HAD THE CHANCE? WOULD YOU BUY ANOTHER RAINBOW?

Would Rainbow owners/users buy another Rainbow? This was one of the questions asked on a questionnaire in the July issue of the Washington Area Rainbow User's Group Newsletter, which went to WARUG members all over the United States. Here are the results on the questionnaires received as of July 28, 1985:

If I had it to over again, I:

Would buy another DEC Rainbow again.	43%
Might buy a Rainbow if it were a bargain.	46%
Would not buy another Rainbow for any reason.	11%

Another of the questions asked in the current Washington Area Rainbow User's Group Membership Questionnaire was, "What would you tell DEC if you had the chance?" Here is a sampling of the answers from members:

--Extend the hotline for technical support (dial-up advice and "hand-holding") to those with no warranty support. Every software package says "call DEC at 800-DEC-8000 for answers to questions, but you can't get in without an access number.

--Provide IBM compatibility.

--Get more third party involvement in the PC area.

--Create a fixed/removable hard disk, forthwith.

--Try to get a little more compatibility with IBM. . .there are a few programs we miss--although not many. I'm quite pleased with support.

--That they're blowing it by not having a more aggressive Rainbow marketing policy in academe, where the strongest, most loyal users are.

--I am writing Ken Olson about my problems.

--BZ-zz-zz-z-z-z!!!

--Make a user's guide that has examples--an index to find things (the present one is not complete enough).

--Keep up with current technology in your micro PC products, at a reasonable price.

--1. Stop ignoring the stand-alone Rainbows
2. Lower prices.
3. Cooperate with 3rd party software companies to encourage more software.
4. Provide "Perspective" [quarterly publication] on a monthly basis with more user-oriented material on how to use particular features of the Rainbow.

--Support the Rainbow as a stand alone unit. Get sales of Rainbows back to the local level so that Rainbow users can get what they need.

--Support the Rainbow and encourage third party development. Support small business needs as well as VAX users.

--Firm up your PC strategy, from the DECmate up through the VAX.

--Masterful example of how not to market PCs. Very short-sighted to restrict choice of printers and to not open up the market for 3rd party manufacturers.

--Please recognize the importance of your customers to your own survival as a company. Get your sales and marketing act together. (From a company with over 400 Rainbows.)

--Lower your prices and support what you sell.

--DEC blew it! Their marketing strategy for the Rainbow stinks! A more liberal and helpful marketing strategy for the retail stores could have made the Rainbow the best selling computer on the market. You have to get the computer to the people as well as get the people to the computer. As for their support, I highly commend them for the Atlanta hotline. It is a good idea and it works! Their local support and software purchasing policies have and anti-customer attitude. How does a company expect to sell products if they will not demonstrate them in their own stores! I think if they want to continue being a factor in the micro-computer market, they have to do some rethinking and improve their marketing for this line of products.

--The company is too difficult. We need a lot of telephone numbers to call for parts, etc. The hot line was worthless when I was using it.

--They need to publish (or make available) a book containing phone numbers to call for information on various subjects. In the past, I haven't been able to find out anything because I don't have the number of anyone who knows what I want to know.

--I've had, and I've done. I'm hoarse.

--Drop dead! Overpriced hardware, insufficient and overpriced software.

--User's don't desire closed systems. PC's won't go away even when networked to hosts. Third party hardware and software is needed. DEC should fix design problems, such as floppies without hubs.

--Continue to support the Rainbow.

--Lower your prices on add-ons and software.

--Reconsider your policy regarding sale of Rainbow as a PC through retail outlets.

--Improve the hotline or provide alternate methods of technical support. Make third party software for the Rainbow available more quickly. (DESQ was about 18 months late.)

--They started a PC venture. . .now they can't simply walk away from it, like a reluctant parent. They've got the resources to provide better support (better = more responsive + communications oriented) and if they don't they'll lose thousands of potential future customers.

--Make software/hardware available that will:
1. allow full IBM compatibility
2. allow full DEC PRO compatibility and
3. documentation/software to address/operate ports without going to assembly language.

--Increase user knowledge of the machine and make hardware changes easier.

--Don't kill the Rainbow!!

--They have really orphaned the machine! Why was the machine not made easily expandible, why was the A developed with such short sightedness, why stop the TRUMP (A to B) upgrades?

--It's an excellent machine, better than IBM PC. If it were only mass-marketed, there would be a greater variety of third party software and hardware available! I think this is the Rainbow's only disadvantage, but it's a BIG one.

--You should offer a PC100A to PC100B upgrade at a very low cost. This will keep users who were loyal to the Rainbow all along current with the latest hardware. It will also give them incentive to buy new hardware that workes better on the B unit, such as the hard disk or the graphics option.

--Continue to support the 100; lower prices to compete with IBM; provide compatibility with the IBM PC.

--Make the Rainbow PC compatible, advertise it, and sell it in retail stores again. Give hotline support to all users, regardless of warranty or service contract.

--The Rainbow is an outstanding machine--don't let it die for lack of new software, add-ons, upgrades, and user-support.

--Support Rainbow users.

--Make the Rainbow IBM PC compatible.

--Hey guys, your documentation needs improvement, we need to know more about the internals and how to get the machine to do what we want.

--You're all cranked-up (production-wise), so why quit now? Better does prevail! Make an expansion chassis with IBM PC slots!

--Do not abandon the Rainbow! Develop/distribute/fix the utility that is supposed to read and write IBM PC diskettes, especially for MS-DOS.

--You have to be kidding! Where should we start? Have the DEC marketing staff take a level 100 Marketing course, and get the word out about the Rainbow. Make a firm commitment to the PC or drop it and sell third party manufacturers the rights to it.

--IBM compatibility. Either get into the PC market and support it, or get out. Support of Rainbows and PROs has been shameful and left everyone with a bitter taste toward DEC. The owner's only salvation is the LUG groups.

--Need much, much more software support and support for the Rainbow as a PC. Also, I don't understand why Wordstar, which is one of DEC's DCS programs, doesn't support DEC's sheet feeder.

--Would like to more buy more lower priced software. Want to see a better commitment to the Rainbow. Want more information on Rainbow technical manuals.

--Why is even simple stuff so hard to do?

--You've got a good machine, learn how to market it! Get on the ball before it is too late.

--Their marketing strategy is deplorable. They have the best PC on the market--why not go for it! Why don't they encourage software producers to write for their family of machines?

--It will be a cold day in hell before I recommend DEC to anyone.

--More software, especially educational.

--I would tell Mr. Olsen that PC's started in the home and will have their greatest impact on society because they let us work at home. PC's are viable!

--It's a real down having them get out of the PC business.

--Admit IBM exists!

--Support Rainbows and UNIX.

(c) 1985 by Washington Area Rainbow User's Group

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POINTS OF ETIQUETTE
Ms. Motherboard

Dear Ms. Motherboard,

I started a new job last month with a "Beltway Bandit" firm in Maryland. I was hired as a secretary for a group of programmers and analysts. Everything was going along really well, until they gave me a microcomputer last week. They told me I should learn how to do word processing on the machine to handle all their proposals. They gave me Word Star and a box of floppy disks and said to try the tutorial programs before anything else. Well, I started by taking a floppy disk out of the box and trying to figure out how to use it in the microcomputer. I took it out of its envelope and removed the hard wrapper around it (they really pack those disks well, the plastic was almost impossible to remove). When I finally got it out, the flimsy round plastic thing didn't fit into the disk drive. When I called my boss to ask for help, he was furious. He swore at me and asked what I thought I was doing tearing up floppy disks. He fired me on the spot with no explanation of what I did wrong. I feel awful, because I still don't know what got him so angry. Can you help me?

Yours hopefully,
Susie Ex-Sec

Dear Susie,

Ms. Motherboard deplores acts of anger and (gasp!) coarse language. Your boss was probably upset because you inadvertantly destroyed a WordStar system disk. Floppy disks are self-contained. You aren't supposed to cut the plastic off from around them. In fact, you should be very cautious when you handle them. They should not be bent or written on, and you should never touch the interior plastic section. A finger print, hair, cigarette ash, or drop of a soft drink can destroy them.

Your boss should have given you another chance. . .however, since he didn't, Ms. Motherboard suggests you take a course in word processing at a local community college, adult ed center, or some other inexpensive place. You'll not only gain new skills and confidence in dealing with a computer, you'll learn enough about computers to avoid another disaster. Good luck!

Dear Ms. Motherboard,

There's this guy in my math class who thrills me to the max. I mean this is the real thing. But he keeps asking me over to his house to see what tricks he can do with pixels. I thought I was with it, but what in the universe is he talking about?

Love ya,
Purple Paula

Dear PP,

Until recently, Ms. Motherboard herself was under the impression that a pixel was a female pixie. However, she has discovered that a pixel is actually a dot. The computer's screen is made up of a matrix of little dots which are either on (lighted) or off (dark). These dots are arranged in patterns (depending on which are on or off) that form the characters seen on the screen. When the text is moved (or scrolls) these patterns are shifted by turning off the previous dots and turning on the adjacent dots (in the proper direction). Pixels can be used to produce pictures and other graphics as well as characters. However, Ms. Motherboard hopes that this offer is not just a techno-adolescent variation of the old line, "Come see my etchings." Just in case, make sure his parents are home when you visit.

Dear Ms. Motherboard,

I have been shopping for an inexpensive daisy-wheel printer for my Rainbow 100A and the TTX 1014 seems to fit the bill because it is compact and produces electronic typewriter quality. Furthermore, it has a built-in pin feed similar to my LA-50, RS-232 serial and Centronics-type parallel interfaces, and a price that's hard to beat (as low as $365.00 in magazine ads).

Like so many beginners, I am not a technical wiz when it comes to computers and it is my understanding that DEC uses some odd-ball serial port signals in the Rainbow, and is somewhat closed mouth about pin assignments. So I wrote to TTX and asked them if the TTX 1014 is compatible with my Rainbow. They said, "Yes, the TTX 1014 is compatible with the DEC Rainbow 100's printer port, BUT, you must also have the XON/XOFF firmware with it."

My question is, What is XON/XOFF firmware, and does my Rainbow 100A have it? If it doesn't how do I get it? I just don't want my Rainbow to turn into charcoal grill when I plug in a non-compatible printer.

Firmly yours,
Beginner Buff Howie

Dear BBH,

Good news! Ms. Motherboard's technical experts tell her that the XON/XOFF protocol is built into the Rainbow, and can be found in the Set-Up mode. When you get into Set-Up, use the the Next Screen function key to move to the second screen, "PARAM SET", then use the right arrow to move to "AUTO XON/XOFF". If the number in that column is "1", it is already on; if it is "0", it is off; change it to "1" by using the up or down arrow. To retain the setting, type "Shift S". You will have then set the XON/XOFF setting to "on".

XON/XOFF is a communications protocol in which the printer and the computer establish a dialog. Because the computer can send characters to the printer much faster than the printer can print

them, the XON/XOFF protocol allows the printer to stop the computer from transmitting more characters until it is ready to print them.

Dear Ms. Motherboard,

My eyes are killing me. I am a programmer analyst, so I spend most of the day staring at a video screen. Is there anything I can do to avoid eye strain at a video terminal? I can barely see the movies on HBO after a hard day at the terminal.

-Blinded by the Light

Dear BBTL,

You may need to change the lighting in the room where you work. To minimize eyestrain, you need to prevent glare on the screen and reduce and even out the room's lighting level. First check the placement of the screen itself. The screen should not be in a position where sunlight falls directly on it. Place it where you won't have to directly face a window when you look at it. When you work with a VDT, the overall light level in the room should be lower than is typical for offices. You will need more light over your work area. Invest in an "architect's lamp" which can be adjusted at the head and arm. Place the lamp so that it illuminates your paperwork and keyboard. Experts recommend florescent lighting since it causes fewer shadows.

Finding perplexing parity errors? Questions related to computer etiquette and the effect of computers in your life should be sent to Ms. Motherboard care of the Newsletter Editor. Naturally, letters should be sent on tasteful buff micro-perf bond with matching envelopes, but dot matrix printing is acceptable.

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THE GRAPEVINE

. . .Borland may put out a Modula-2 compiler soon. . . .Mark William's C in a Rainbow MS-DOS version should be out by the end of June ($). . . .Used printers are typically discounted as much as 60% over the original cost. . .if you can find a used HP Laserjet, it could be as low as $. . . . .R Base: 5000 will not be available in a Rainbow version unless DEC comes to them and specifically requests it, according to MicroRim. . . .dBase III for the Rainbow--it IS available--mentions that you need MS-DOS version 2.11 to run it. . .fortunately, not true. . .it runs fine on MS-DOS 2.05. . . .Think twice before starting to change config.sys, especially if you have any files on the system already. . .you may get some very strange errors. . . .If you were planning to switch your 100A motherboard for a 100B, you may have to forget it. . .apparently DEC has released an internal memo banning the TRUMP, or trade-up program, but check with your local DEC Service office--a few haven't gotten the message. . . .Turbo-Pascal version 3.01A is being sent out. . .it apparently corrects problems in version 3.0. . . .Framework will not be available for the Rainbow. . .nor will ThinkTank. . . .DEC is threatening employees so they won't talk about a new computer expected to be announced before Christmas 1985. . .the new personal computer will not be compatible with the Rainbow. . . .A lot of KayPro CP/M public domain software works on the Rainbow. . .WordStar 2000 commands are not the same as good old WordStar. . . .AME-86 does not allow file transfers using CrossTalk. . .it also does not work with any CP/M-80 programs. . .works well with WordStar. .

(c) 1985 by Caroline M. Mack

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SHORT NOTES

--Was DEC right about office automation? Future Computing, a marketing research company, forecasts that in 1985, about 75% of corporate micros will be used as standalones. In 1984, nearly 80% were used as standalones. Why not make Rainbows attractive to both the standalone and the office automation market, DEC?

--Verbatim Disk Replacement Offer: Verbatim will replace any 3M, Maxell, or Dysan floppy disk which fails with a Verbatim disk for free. To take advantage of the offer, mail a failed 8", 5.25", or 3.5" disk, in its original envelope, along with your name, address, and brand and model of your computer system to: Verbatim Offer, P. O. Box 7306, Clinton, IA 52736. There is a limit of one refund per name or address. The offer is limited to the first 100,000 failed disks received, and expires October 1, 1985.

--The 4000 member Turbo User's Group (TUG) is a specialized group for users of Borland's Turbo Pascal. Membership in the national group entitles you to receive TUG Lines, their bi-monthly newsletter. The December 84/January 85 issue contained a number of articles related to Turbo Pascal, such as, "TYPER: A Typewriter Emulator", "Four Lifesaving Utilities for CP/M", "UCSD Program Logic Conversion", and "8087 Support: That Much Faster?" The 36 page newsletter also has a New Products Section. Information on membership ($20/year) is available from the Turbo User Group, P. O. Box 1510, Poulsbo, WA 98370.

--The Directory of Information Age Newsletters is a directory of more than 380 newsletters which specialize in personal computers, electronics, telecommunications, investments, office automation, and related subjects. Available for $95 from Frank Communications Group, P. O. Box 144, Mount Vernon, NH 03057.

--Barry Folsom, manager of DEC's Rainbow group, has resigned. He has taken a position as vice-president of East Coast engineering with Sun Microsystems, of Mountain View, California. Folsom headed the product team which developed the Rainbow 100, 100+, 190, and the VT180. Folsom's resignation closely follows the resignation of Neil Rich, Manager of Tactical Marketing for the Rainbow. Rich left that post in January to take another position within DEC.

--Interactive Technology, Inc., which produces RDM for the PRO 300 series, has changed its address to 10700 SW Beaverton-Hillsdale Hwy., Suite 406, Beaverton, OR 97005, (503) 644-0111.

--Data Sources, Inc., plans to offer the Computer Industry Digest. Data Sources claims the semi-annual publication will contain abstracts of new product of all new product reviews as well as articles from 700 computer-related publications. Current mailings advertise the price for one year at $112. More information is available from Data Source's Computer Industry Digest, 4th Floor, One Park Avenue, NY, NY 10016.

--Rainbow software is available by mail at substantial discounts from MEC Software, 1713 St. Mary's Avenue, Parkersburg, WV 26101, (304) 485-9126. MEC discounts range from 4% to 33% on an extensive list of Rainbow software. They also carry Univation hardware and other peripherals. Technical information is available during business hours. MEC accepts checks, credit cards, and purchase orders. Call or write for a catalog between the hours of 9 a.m. and 7 p.m., Monday through Friday, and 10 a.m. to 3 p.m. on Saturdays.

--Samna Corporation has removed copy protection from Word II and Word III, making it possible to copy the program onto hard disks and to make backups. Congratulations, Samna, for a sensible decision. . .

--Summa Technologies, which offers Freestyle (a text outliner similar to Thinktank, and a word processor), is now offering site licenses. The cost of a basic license for Freestyle is $7000. Summa will also, for an extra fee, allow employees to make copies of Freestyle for personal use. Summa intends to make site-licensing affordable even for small companies.

--Bulletin Board Users should watch out for a program called VDIR.COM. It is designed to trash your system when it runs, including your hard disk. It sends little messages telling you what it is doing. Once it is run, you can't be certain when or if it will reappear. It works like a "tape worm."

--DEC has made the specs of the All-In-One Office System available to encourage third party developers to link applications programs to All-In-One.

--Hard times for high tech in the stock market: Like many other high tech companies, including IBM, DEC's stock price has been dropping, and probably has not hit the bottom yet. DEC insiders (corporate officials, directors, and so on) have been selling their DEC stock. Insiders typically buy and sell well in advance of major changes in of companies' stock, giving an indication of the direction the stock will take. The stock took another dive recently after analyst Marc Schulman, of Hambrecht and Quist, Inc., estimated that DEC stock would have lowered earnings during fiscal 1985 and 1986.

--Despite expects drops in DEC's stock earnings, DEC continues to give Rainbows to colleges (the only way to get rid of them since they won't sell them in retail stores. . .?) It has now given micros to 50 colleges which received funds from the Department of Education's Fund for the Improvement of Postsecondary Education project, as well as to several universities who are apparently emphasizing networking. Recent donations include $11 million (of a $30 million networking project at Stevens Institute of Technology, and several million for a network at Syracuse University. Both projects are based on DEC's powerful new VAX 8600 computer.

SOFTWARE AND HARDWARE

--EMUDEC is an interface which is designed to be lodged in an RS-232 cable between a Qume, Diablo, or Fujitsu daisy wheel printer and the computer. It intercepts LPQ02 commands and translates them into Qume Sprint or compatible commands. No other software or hardware modifications are necessary. Using a Z80 processor, it provides a 2KB buffer, and sends return signals which emulate a DEC printer. Baud rates from 150 to 9600 are supported, as are choices in parity, stop bit, and word length. For more information, contact Techsolv Products, Ltd., 20 Queens Road, Reading, Berkshire, R61 4AL, England.

--SoftWright Systems offers ChessWright, a menu driven Chess game with seven skill levels from beginner to expert. ChessWright allows the user to play white or black with the computer, to play with another player, or to watch the computer play itself. It takes advantage of a graphics board and color monitor if available, but has an alternate screen display if they are not available. Chesswright requires MS-DOS and 128K of RAM, runs faster with more memory. Available for $ from SoftWright Systems, P.O. Box 3208, Durham, NC 27705; (919) 383-4441.

--Real Estate Microcomputer Systems, Inc. (REMS), offers Real Estate Investor II for the DEC Rainbow. Real Estate Investor II uses modern real estate analysis techniques to aid the user in making sound real estate investment decisions. Features include, 5 or 10 year analysis, partial year analysis upon acquisition, up to 10 different loans using 9 different types of loans, refinancing

capabilities, 100% or greater financing, Internal Rate of Return, Financial Management Rate of Return, variable parameters from year to year, automatic mathematic calculations, and full screen editing. Requires 192K RAM for MS-DOS version, 64K for CP/M. Available for $ (with a 30 day money-back guarantee) from Real Estate Microcomputer Systems, Inc., 526 NW Second Street, Corvallis, OR 97330, (503) 757-8887.

--JEB Systems, Inc., has announced Marketing Management System, a comprehensive sales tracking and follow-up system. The heart of MMS is a database with pre-defined screens which store relevant information and provide space for memo information. A simple text editor allows the user to create, merge and print one page letters for quick response to sales prospects. The on-line Master File can be used with an automatic dialing function to facilitate automatic dialing. MMS' forecasting allows the user to summarize lead and sales activities to determine productivity, summarize cost and exposure data to determine cost effectiveness, summarize lead and sales activity by product, determine the average closing time for each product, quantify each individuals sales activity, and make a monthly forecast based on leads on file by product or salesperson. The program keeps records on sales follow-up activities. Using the database, labels, envelopes and cards can be produced in a number of formats. Also included are data import and export utilities, global change, help screens, record locking, interface with Lotus 1-2-3 and AthenaGraph for graphics, and interface with databases such as Datatrieve and DBaseII. The Marketing Management System is available on a number of different DEC systems. The cost for the DEC Rainbow and the DECmate II is $; for the PRO/350, $; for the MicroVax, $ for the Vax, $ The form letter/Lotus 1-2-3 Interface option is available for $, and the Lotus 1-2-3 Interface is $ The MMS Prospector is available for the DEC Rainbow at $ For more information contact JEB Systems, Inc., P. O. Box 70, 37 Main Street, Franconia, NH 03580, (800) 821-1006.

--Soft Gold, Inc. has recently announced the Business BASIC Native-Code Compiler, which augments Applications BASIC, an extended BASIC interpreter designed for programming business applications. The Native-Code Compiler uses the same source code as Applications BASIC, but provides a run time system, which protects the code. Both are compatible with MAI/Basic Four's Business BASIC Level III. The interpreter is $; the compiler/run time module is $. Requires MS-DOS, but there is a CP/M version which offers fewer features. For information, contact Soft Gold, Inc., P. O. Box 2718, Newport Beach, CA 92663, (714) 476-3004.

--For those who prefer not to do their own customization of WordStar or who have LA-100 Printers (which need a special patch), WSRAINBO offers a patch which sets function, arrow, and numeric keypad keys to common WordStar Commands. CP/M, WordStar, and 64K required. Available for $ from Computec, PO Box 4445, San Luis Obispo, CA 93043,(805) 544-5685.

--Graphic M*I*S, the makers of FINGRAPH for the Pro 350, are now offering Speech*Maker for the Rainbow. Speech*Maker is a graphics program designed to make visual aids, such as transparencies and handouts, inexpensively. The program provides over 100 "pre-defined" layouts to simplify design, and allows design of custom layouts. It enables the user to draw lines, boxes, and circles, use 3 character fonts (regular or italicized) in four different sizes, save layouts with or without the information within. Requires MS-DOS with 256K RAM, does not require a plotter. Available for $ plus $ shipping from Graphic M*I*S, Inc., 960 Clocktower Drive, Springfield, IL 62704, (217) 793-0884.

--Sales Professional Database, designed for individuals and sales organizations, has been released by User Friendly Programmers. Using a menu system, it offers headings for customers, manufacturers, products, salesmen, expenses, mailing list, quotations,

orders, shipments, back orders, commissions, call reports, notes, to-do lists, and back-up prompts. Requires CP/M 86. Available for $1095 from Jan Krieger, User Friendly Programmers, Inc., 501 Valley Brook Road, McMurray, PA 15317.

--The Bridge, a Virtual Microsystems add-on board, allows MS-DOS programs to be run on the Pro 350 and Pro 380. The bridge is software and a board which includes an 8086 processor and 256K bytes of RAM. It fully emulates IBM PC bit-mapped graphics. VM also offers products which enable the PDP 11/23, Micro-11, and Micro-VAX to run MS-DOS applications. Available from Virtual Microsystems, 2150 Shattuck Avenue, Suite 720, Berkeley, CA 94704, (415) 841-9594.

--A demo version of ATHENA/graph, which includes complete documentation, is now available for $. ATHENA/graph is decision support grapnics program available for the PRO 350 and PRO 380. Full package is $, available from Ship Analytics, Inc., North Stonington Professional Center, P. O. Box 410, North Stonington, CT 06359, (203) 535-3092.

--C-CALC is available for the PRO 350 on the P/OS operating system. It is currently in beta testing for the Rainbow. Written in the C language, it offers menus, English-like commands, on-line help, an export/
import routine, and ability to work with up to four parts of a spreadsheet or four spreadsheets simultaneously. C-CALC offers a dialup demonstration at 300/1200 baud. The demo number is (206) 828-3913; Username: DEMO; Current Password: DSD. The lines automatically detect baud rate. If the computer does not respond immediately, press the (return) every few seconds until it does. To get help, type the letter "H" at the prompt. The demo allows you to print a portion of the manual so that you will have the information you need to actually try C-CALC. C-CALC for the PRO is $ for the Rainbow, $ For information, contact DSD Corporation, Suite A, 10420 N.E. 37th Circle, P. O. Box 2669, Kirkland, WA 98033-0712, (206) 822-2252.

--PRO/TSX-Plus, an operating system recently announced by S&H Computing Systems, Inc., allows the single user Pro 350 to function as a multiuser, multitasking computer. PRO/TSX-Plus is a new version of the company's TSX-Plus operating system. The new system supports up to three users, and will support most RT-11 applications designed for the PDP-11 without modification. System features include spooled printing, concurrent program control, a facility to lock files, communications which utilize dial in support, logon security, a virtual debugger, interprogram messages, and improved I/O speed. The system is supposed to reduce by 20-40% the time the older system needed to compile DEC Fortran. Available for $ from S&H Computing Systems, 1027 17th Avenue S., Nashville, TN 37212.

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BOOKS

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How to Buy Software. Alfred Glossbrenner. St. Martins Press, 1984. Paper, $14.95. 648 pages. Excellent source of information, not only on how to buy software, but how to evaluate it.

American University Programs in Computer Science: Their Resources, Facilities, and Course Offerings. Edited by William W. Lau. 1984, GGL Educational Press. 210 pages, $20, postpaid. Describes computer science programs at more than 150 United States colleges and universities. Available from GGL Educational Press, 2555 East Chapman, Suite 300, Fullerton, CA 92631.

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LETTERS TO THE EDITOR

Dear PC SIG Steering Committee:

The June issue of the OA/PC/Graphics Newsletter just arrived today. I am completely appalled by the butchering job done on the newsletter by the DECUS staff in the name of commercialism.

When my father hired a cabinet maker to build a black walnut serving cart, he drew up the plans and gave them to the cabinet maker to have the piece made. Until the cart arrived, he didn't know how much it would cost. He felt that if he had to ask, he could not afford it. Most of us cannot afford to order software or hardware in such a manner.

Several of the authors and I were at a Washington Area Rainbow User's Group Steering Committee meeting and agreed that it was very inappropriate for DECUS to change a copyrighted article before it is published. Since I have submitted articles in the past and have several that I am writing at the present time, I feel that it is only fair to the authors that DECUS publish the exact guidelines that we are to write under. To white out the prices makes for very silly reading. I do not like to be made a fool. I also remember a case where the names of DEC competitors were not allowed in an article. Most of the prices involved are available in the DECdirect catalog.

At the present time, most Rainbow owners feel that they have bought an "Osborne." DEC has abandoned them. The public magazines have abandoned them. If you call a third party software vendor, they will deny they have the product. With extreme effort [on the user's part] they will give the [necessary] information. Once you call back and say, "I read in ------ that I can buy ------ from you for $------ and it is part number ------, you can generally get the product. For instance, Ashton Tate denies that there is a Rainbow version of DBase II if you call them. If you tell them it is part number x, for $y, they will sell it. If DECUS abandons the Rainbow, Rainbow user's will have no where to turn.

I think that the commercialism policy needs to be revised. It is clearly a different issue when you are dealing with PCs than with VAXes.

At a minimum, an author's kit is needed to list the rules.

Art McClinton
Mitre Corporation

Editor's note: The letter above, and the two replies below, were taken from DCS, the DECUS Leadership Communication System.

From Don Golden, SIG Communications Committee:

Art, I do understand your comments. I was involved in the decision to white out, rather than reject, the entire issue. this decision was made in compliance with the DECUS commercialism policy. I hope the board will consider the plight of the PC users and PC article authors and find a way to exempt PC software vendors who are in the DEC stable (ie., you can buy their product off the shelf at a DEC computer store) from this highly restrictive policy. Somehow seeing a review of ChessWright's Chess floppy at $XY.YY is greatly different from seeing some VAX Software OEM's offering at $X,YYY.YY

From Barbara Maaskant, Chairman of the PC SIG

Thank you for your comments regarding the SIG newsletter and pricing. I have a copy of the present policy (Caroline Mack recently forwarded it), and I will be happy to send it. I agree with you that it greatly takes away from the submission and that the PC world is very different from that of the mainframes. From my own experience, price is often the second question asked about a piece of software, and a major means of evaluating the necessity of many features. With the volume of software PC owners have to choose from, it is an unnecessary hassle to have to go to another

source for price information. The majority of PC users don't do not get tied up in hardware bundled pricing, academic pricing, special deals, etc. I can understand why quoting a price for mainframe products can not easily apply to the majority of readers. . . I do not feel the logic behind this policy carries over to the PC world.

I believe a lot of attention is being paid to new editor training and think the idea of an author's packet is excellent. I also think the issue of commercialism and what might be archaic policies should be reviewed by the [SIG] Communications Committee. I have forwarded your comments and mine to our newsletter editor and Communications Committee representative. My apologies for what I know had to be a very upsetting surprise.

7 24 Jul 85 23:14:03 (RECV'D) $0.25

From: Ken Kaplan on Fido #22 in Net #100 PCLUG, St_Louis.....MO
To: Caroline Mack on Fido #483 in Net #109

Subject: June DECUS SIG Newsletter
Congratulations on a job well done. I hope the word spreads fast now that we now have a central source for Rainbow information. If DECUS suggests you leave out the prices next time, suggest they find another editor. Who do they think they are hiding pricing information from?

Thanks for all the hard work,
Ken Kaplan
Chairmen St Louis DECUS PCLUG
& Fido International Coordinator on Fido 1/0

* Via Node 100/10
* Via Fido 109/115

[Editor's Note: The letter above shows what a FIDO Bulletin Board Message looks like.]

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USER GROUP COLUMN

Editor's Note: I will try to update this column in each issue. If you know of a DEC PC user's group that is not listed, please send me the name, address, telephone number and a contact person. Also, please let me know of any changes in the information here. Thanks. --ED

CALIFORNIA

INLAND EMPIRE PC LUG

Chairman:
Jan Snyder
General Dynamics
380 Veronica Street
Upland, CT 91786
(714) 620-7511, x 1118/1101

SACRAMENTO VALLEY LUG
RAINBOW SIG

Chairman:
Robert Walraven
1309 Notre Dame Drive
Davis, CA 95616

PACIFIC RAINBOW LOCAL USER'S GROUP

Co-chairman:
Steve Jack
1623 Granville, Apt. 10
West Los Angeles, CA 90025
(213) 207-8310

SAN DIEGO AREA RAINBOW LOCAL USER'S GROUP

Chairman:
Rick Eliopoulos
Advanced Software Applications
5258 Vickie Drive
San Diego, CA 92109
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SAN FRANCISCO BAY AREA DEC PC USER GROUP
P. O. Box 12561
Northgate Station
San Rafael, CA 94913-2561

Chairman:
Dale W. Miller
(415) 472-6531

SANTA BARBARA AREA DEC PC LUG

Chairman:
Rick Vincent
253 Aspen Way
Santa Barbara, CA 93111
(805) 964-9744

SILICON VALLEY DEC PC USER'S GROUP

Chairman:
Seth Goldberg
Stanford University
P. O. Box 4349
Stanford, CA 94305-4349
(415) 854-3300, x 2874

SOUTHERN CALIFORNIA PC LUG

Chairman:
Bill C. Davis
GoodGames
1457 1/2 West 219th Street
Torrance, CA 90501
(213) 618-1083

CONNECTICUT

HARTFORD RAINBOW USER'S GROUP
P. O. Box 10387
West Hartford, CT 06110

Chairman:
Reginald Dionne
(203) 725-6000, x 5248
(203) 583-4816

NEW HAVEN RAINBOW LUG

Chairman:
William B. Leng
Southern Connecticut State University
501 Crescent Street
New Haven, CT 06515
(203) 397-4625

NECRUG (Northeastern Connecticut Rainbow User's Group)

Chairman:
Howard Roberts
67 Route 6
Andover, CT 06232
(203) 486-3920 (days)

DELAWARE

DUPONT RAINBOW USER'S GROUP

Laura A. Lindsay
E. I. Dupont de Nemours & Co., Inc.
Information Systems Department
6-904-2
Wilmington, DE 19898
(302) 774-4853

DISTRICT OF COLUMBIA, MARYLAND AND VIRGINIA

WASHINGTON AREA RAINBOW USER'S GROUP

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Silver Spring, MD 20910
(301) 589-5318

For information, contact:
Newsletter Editor:
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University Park, MD 20782
(301) 927-0108

WASHINGTON AREA PRO USER'S GROUP

Sharon Weiss
255 Congressional Lane
Rockville, MD 20852
(703) 692-1380

FLORIDA

TRI-COUNTY RAINBOW LUG

Bill Tabor
Computer Products, Inc.
2900 Gateway Drive
Pompano Beach, FL 33069
(305) 974-5500, x7258

HAWAII

HAWAII RAINBOW USER'S GROUP

(Apparently defunct)
For information, contact:
Professor Russell Yost
U. of Hawaii
Tropical Agriculture Department
3190 Maile Way
(St. John's 017)
Honolulu, HI 96822

ILLINOIS

CHICAGOLAND AREA PC/WPS LUG

For information, contact:
Cheryl A. Celeste
Monsanto
9701 West Higgins Road
Suite 500
Rosemont, IL 60018
(312) 823-9050

MASSACHUSETTS

Boston Computer Society
DEC PERSONAL COMPUTER USER'S GROUP

Boston Computer Society
One Center Plaza
Boston, MA 02108
BCS (617) 367-8080

Chairman:
Karl Rosenberger
15 Willowbrook Drive
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(617) 879-8307

MINNESOTA

MINNEAPOLIS-ST. PAUL PC LUG

Being formed. Contact
John Vilandre
University of Minnesota
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Stadium Gate 27
Minneapolis, MN 55455
(612) 376-4066

MISSOURI

ST. LOUIS DEC PC LUG

Chairman:
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9270 Olive Boulevard
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NEBRASKA

OMAHA RAINBOW USER'S GROUP

Shirley Bohaty
1343 Bel Aire Blvd.
Wahoo, NE 68066
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NEW HAMPSHIRE

SEACOAST PC LUG

Kevin Sperl
ACS, Inc.
P. O. Box 76
Center Strafford, NH 03815
(603) 664-9717

NEW MEXICO

DEC PC LOCAL USER'S GROUP OF ALBUQUERQUE, NEW MEXICO

Chairman:
Stan Dutler
7204 Oralee NE
Albuquerque, NM 87109

NEW YORK

LONG ISLAND LUG
PC SIG

Chairman:
Al (Fred) Scholldorf
Reuters, Ltd.
90 Davids Road
Hauppauge, NY 11788
(516) 435-7116

NEW YORK METRO DEC PC LUG

Co-Chairman:
Bob Bennett
DEC User's Group of Greater New York
697 West End Avenue, #9B
New York, NY 10025

GREATER ROCHESTER AREA LUG
(PC SIG?)

Gary Griswold
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NORTH CAROLINA

RESEARCH TRIANGLE LUG
PC SIG

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OHIO

CENTRAL OHIO PC LUG

Chairman:
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(614) 424-4947

Robert L. Lindsay
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Lancaster, OH 43130

PENNSYLVANIA

DELAWARE VALLEY DEC-PC USER GROUP

Chairman:
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ST. JOSEPH'S UNIVERSITY RAINBOW USER'S GROUP

Chairman
Dr. Val Herzfeld
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UNIVERSITY OF PENNSYLVANIA DEC RAINBOW USER'S GROUP

Bill Gavelis
906 South 46th Street
Philadelphia, PA 19143

TENNESSEE

MIDDLE TENNESSEE DEC PC LUG

Chairman:
Dennis D. Knowles
Cumberland Associates
108 Brookhollow Drive
Old Hickory, TN 37138
(615) 754-9151

TEXAS

DALLAS RAINBOW USER'S GROUP

For information, contact:
Chairman:
Ken Kattner
Kadex Corporation
11311 North Central Expressway
Suite 300
Dallas, TX 75243
(214) 692-6080

DIGITAL SMALL COMPUTER USER'S SOCIETY (DISCUS)

Dennis Forcier
P. O. Box 470521
Dallas, TX 75247

HOUSTON DEC PC LOCAL USER'S GROUP

Chairman:
Allen Bartram
Houston Micros
12502 Millbanks
Houston, TX 77031
(713) 495-3168

or
9119 South Gressner
Suite 101
Houston, TX 77074
(713) 981-5107

UTAH

SALT LAKE'S RAINBOW USER'S GROUP
(a SIG of the Salt Lake LUG)

J. R. Westmoreland
6748 Acoma Road
Midvale, UT 84047
(801) 262-5251

VIRGINIA

RICHMOND USERS GROUP

Chairman:
Bill Myers
Department of Chemistry
University of Richmond
Richmond, VA 23173
(home) (804) 320-1500
(office) (804) 285-6321

WISCONSIN

NORTHEAST WISCONSIN LUG

Steve Peschke
Network System Design
300 North Main Street
3rd Floor
Oshkosh, WI 54901

GERMANY

GERMAN PC SIG

Dr. Otto Titze
Institut fur Kernphysik THD
TH Darmstadt
Schlossgartenstrasse 9
6100 Darmstadt
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(Telephone) (0 6151) 16 33 23

EUROPE

EUROPEAN PC SIG

Chairman:
Paul Sawyer
School of Chemical Engineering
University of Bath
Bath, Avon, BA27AY
England

AUSTRALIA

DECUS AUSTRALIA PC SIG

Chapter Office
P. O. Box 384
Chatswood
New South Wales, 2067
Australia
Phone 412-5252

ISRAEL

Herzliya, Israel

COMPUSERVE

The VAXSIG has an active group of DEC PC users. Compuserve subscribers can type GO PCS-16 at the ! prompt and select sub-area 6. A real time conference is held every Wednesday at 9:30 PM EST. Also has a BB and software area.

ROG--ROBIN OWNER'S GROUP

Chairman:
John Comella
2 Mockingbird Lane
Maynard, MA 01754

AMERICAN BAR ASSOCIATION

DEC User Group
Lawrence Eisenberg
(818) 788-0354

Kelly Frey
Harwell Barr Martin and Stegall
P. O. Box 2960
Nashville, TN 37219-0960

David Sykes
Duane, Morris and Heckcher
One Franklin Plaza
Philadelphia, PA 19102
ABA CONFER #170

NATIONAL DECUS ADDRESS

DECUS (Digital Equipment User's Society)
Ann Foley
249 Northboro Road (BP02)
Marlboro, MA 01752
(617) 480-3259

DEC RAINBOW ORIENTED BULLETIN BOARDS

Bulletin Boards are believed to be open 24 hours unless noted. Unless noted, all accept 300 and 1200 baud rates; some accept 2400 baud. This list of DEC-oriented bulletin boards may not be complete. If you know of other bulletin boards with a DEC PC orientation, contact the editor.

(201) 750-3748 DEC-WARE II 107/317 Iselin, NJ David Horowitz
(203) 453-1089 Rainbow's End 110/210 Guilford, CT
Matt Gertner (10pm - 6am)
(212) 535-8924 DEC-WARE 107/79 New York, NY Matt Kanter
(213) 204-2996 Rainbow Data 102/36 Culver City, CA
Don Brauns (CHARGES: $2.50 a month, minimum, 6 months)
(213) 618-8454 Southbay RB 102/383 Torrance, CA Glenn Bowes
(213) 644-1963 Rainbow Brite 102/3603 Hawthorne, Ca
Bruce Headly
(214) 392-1121 Big D Fido 19/ Dallas, TX Dennis Forcier
(301) 484-2831 CLP-BBS 13/2 Pikesville, MD John Madill
(301) 776-2300 The Beauty Board 109/601 Laurel, MD
John Raum
(305) 321-2369 Joe's Rainbow 18/46 Orlando, FL Joe Clayton
(312) 759-5402 Illini Data 115/393 Bolingbrook, IL Rob Elliot
(312) 331-2396 Microcomputing Forum 115/666 Markham, IL
Andrew McElroy (by REQUEST)
(314) 432-4129 DECUS Central 100/51 St. Louis, MO Ken Kaplan
(314) 726-3448 Mikes-Board 100/16 St. Louis, MO
Mike Mellinger
(314) 576-2743 PC LUG 100/22 St. Louis, MO Ken Kaplan
(314) 234-1462 MDC RCC St. Louis, MO Ben Baker (5pm-8am)
(314) 962-0395 DCA BBS 100/17 St Louis, MO Jon Wichman
(315) 589-3981 Hitchhiker's Guide 107/23 Williamson, NY
Fritz Howard (12am-6pm)
(408) 274-1427 Vern's FIDO 10/13 San Jose, CA. Vern Crawford
(415) 864-1418 Fido's-Board 10/1 San Francisco, CA
Tom Jennings
(415) 431-8088 Puppy's Board San Francisco, CA Tom Jennings
(502) 425-9941 Scherer's Dublin, OH David Orr
(602) 277-3530 Rainbow BBS 114/333 Phoenix, AZ Jim Kashner
(10pm-4pm M-F; 12am-8am, weekends)
(608) 233-8449 MidNet 11/90 Madison, WI Mike Mansfield
(609) 429-6630 DEC-House 107/82 Cherry Hill, NJ
Brian Stetz (12am-5:30pm)
(616) 343-0996 Thieve's World Kalamazoo, MI Ian Schirado
(617) 481-7147 WayStar 101/14 Marlboro, MA Kevin Porter
(617) 787-3033 Midnight DEC 101/45 Boston, MA
David Strickler (12am-5pm)
(617) 721-1688 DEC-Line 101/202 Winchester, MA Bill MacNeil
(closed until 9/1/85)
(617) 632-1861 Dave's FIDO 101/27 Gardner, MA David Rene
(617) 874-4325 Dave's Annex 101/310 Westminster, MA
David Rene
(617) 646-3610 NECS 101/44 Arlington, MA. Dave Mitton
(617) 486-2285 RBG-ENG HootNet 101/367 Littleton, MA
Bruce Gibson (Run by the Rainbow Engineering Group at DEC)
(619) 488-2116 San Diego Rainbow LUG 102/350 San Diego, CA
Rick Eliopoulos (7am-7pm, DECUS members by request)
(703) 671-0598 The Bear's Den 109/74 Falls Church, VA
Kurt Reisler
(703) 359-6549 Wash-A-RUG 109/483 Fairfax, VA
Washington Area Rainbow User's Group--Kurt Reisler
(714) 537-7355 Mike's Rainbow 102/313 Garden Grove, CA
Mike Hamilton (RESTRICTED)
(714) 964-0454 Medic 102/410 Huntington Beach, CA
Philip St. Erne, MD
(717) 794-5268 Catt House Fido 13/489 Blue Ridge Summit, PA
Bob Catt

(801) 262-5251 IMALUG RUG 15/1003 Midvale, UT
J. R. Westmoreland
(805) 643-0982 Oberon Systems 102/430 Ventura, CA
Scott Johnson
(806) 795-0102 DEC Domain 19/67 Lubbock, TX Alan Minchew
(806) 742-5328 DEC Bronson 19/918 Lubbock, TX Bronson Johnson
46-541-33-170 Day Rainbow 101/348 Karlstad, Sweden
Conny Jonsson (300 baud, CCITT except during FIDO-NET)
44-6-354-6480 FIDO UK1 101/4401 Newbury, England
Ron Smallwood (300 baud, European modem protocol: 9pm-6am; Bell 212A modem protocol: 9am-3pm)

Non-DEC FIDO:

(603) 924-9820 BYTEnetLISTINGS 101/104 Peterborough, NH George Bond

(non-Fido bulletin boards)

(201) 249-0691 CP/M-Net (tm) East Piscataway, NJ
(505) 831-0205 ROBIN RBBS Albuquerque, NM Elroy Gonzales
(617) 467-4824 PDL (Scientific Applications Public Domain Software; to log onto system respond to prompt for "Username' and 'Password' with 'PDL'
(617) 467-7437 DEC MARKET: Login: Type (Return) to start. At the @ prompt, type "LOG LGK.KERMIT KERMIT". The last word will not show on the screen.

TYPE/PITCH SAMPLES USING WORDSTAR PRINT CONTROLS

WORDSTAR VERSION 3.33 (CP/M-86) OR 3.31 (MS-DOS)
INSTALLED FOR DEC RAINBOW 100+; LA-50 PRINTER

(CPI = CHARACTERS PER INCH)

^PQ
abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890
(16.5 cpi)

^PQ^PD
abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890
(16.5 cpi double)

^PA
abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890
(elite [12 cpi])

^PA^PB
abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890
(elite bold)

^PA^PD
abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890
(elite double)

^PA^PY
abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890
(elite enhanced)

^PA^PY^PD
abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890
(elite enhanced double)

^PN
abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
12334567890
(pica [10 cpi]) [DEFAULT PITCH]

^PN^PB
abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
12334567890
(pica bold)

^PN^PD
abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
12334567890
(pica double)

^PN^PY
abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890
(pica enhanced)

^PN^PY^PD
abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890
(pica enhanced double)

^PR abcdefghijklmnopqrstuvwxyz (8.25 cpi)
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890

^PR^PD abcdefghijklmnopqrstuvwxyz (8.25 cpi double)
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890

^PE abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890
(6 cpi)

^PE^PD abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890
(6 cpi bold)

^PE^PB abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890
(6 cpi double)

^PE^PY abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890
(6 cpi enhanced)

^PE^PY^PD abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890
(6 cpi enhanced double)

^PW abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890
(5 cpi)

^PW^PB abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890
(5 cpi bold)

^PW^PD abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890
(5 cpi double)

^PW^PY abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890
(5 cpi enhanced)

^PW^PY^PD abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890
(5 cpi enhanced double)

PRINT CONTROL SUMMARY:

PRINT CONTROL	^PQ	^PA	^PN	^PR	^PE	^PW
HORIZONTAL PITCH (CPI)	16.5	12	10	8.25	6	5
LINE LENGTH (COLUMNS)	132	96	80	66	48	40

NOTES:

1. ^PY ACTS AS A TOGGLE TO START & STOP ENHANCED PRINTING. (ENHANCED PRINTING DOES NOT WORK WITH 16.5 OR 8.25 PITCHES).
2. ^PB ACTS AS A TOGGLE TO START AND STOP BOLD DENSITY. (BOLD DENSITY DOES NOT WORK WITH 16.5 OR 8.25 PITCHES).
3. BOLD AND ENHANCED DENSITY CANNOT BE USED AT THE SAME TIME.
4. ^PD ACTS AS A TOGGLE TO START & STOP DOUBLE STRIKING. (DOUBLE STRIKING WORKS WITH ALL PITCHES.)
5. TO RETURN TO DEFAULT PITCH FROM ^PQ, ^PW, ^PE OR ^PR, USE ^PA^PN; FROM ^PA, USE ^PN ONLY.
6. THESE PRINT CONTROLS AFFECT ONLY HORIZONTAL PITCH (CPI). DEFAULT VERTICAL PITCH IS 6 LINES PER INCH.

LA100 PRINTER SPECIAL FUNCTION SETTINGS

Function	Sequence 8-bit	7-bit
index	IND (132)	ESC D
next line	NEL (133)	ESC E
Horiz. Tab Set	HTS (136)	ESC H
Vert. Tab Set	VTS (138)	ESC Z
partial line down	PLD (139)	ESC K
partial line up	PLU (140)	ESC L
reverse index	RI (141)	ESC M
single shift 2	SS2 (142)	ESC N
single shift 3	SS3 (143)	ESC O
device control string	DCS (144)	ESC P
control string introducer	CSI (155)	ESC [
string terminator	ST (156)	ESC \
operating system command	OSC (157)	ESC]
private message	PM (158)	ESC ^
application program command	APC (159)	ESC _
MODE SETTING COMMANDS		
enable C1 transmit		ESC SP G
disable C1 transmit		ESC SP F
enable C1 receive		ESC SP 7
disable C1 receive		ESC SP 6
set line feed new line mode		CSI 2 0 h
clear line feed new line mode		CSI 2 0 l
set auto wraparound mode		CSI ? 7 h
clear auto wraparound mode		CSI ? 7 l
set horizontal pitch mode to font pitches		CSI ? 2 9 h
set pitch mode to all pitches		CSI ? 2 9 l
POSITIONING COMMANDS		
vertical position absolute		CSI line d
horizontal position absolute		CSI col `
horizontal position relative		CSI delta-col a
cursor up		CSI delta-line A
vertical postion relative		CSI delta-line e
index	IND (132)	ESC D
next line	NEL (133)	ESC E
partial line down	PLD (139)	ESC K
partial line up	PLU (140)	ESC L
reverse index	RI (141)	ESC M
FORMS DEFINITION		
set page width alignment		CSI left ; width " s
set margins		CSI left ; right s
set lines per physical page		CSI lines t
set top and bottom margins		CSI top ; bottom r
FONT AND SIZE SELECTION		
Set horizontal pitch		CSI pitch w
5		CSI 5 w
6		CSI 6 w
6.6		CSI 7 w
8.25		CSI 8 w
10		CSI 0 w or
		CSI 1 w
12		CSI 2 w
13.2		CSI 3 w
16.5		CSI 4 w
Set vertical pitch		CSI pitch z
2 lines per inch		CSI 4 z
3 lines per inch		CSI 5 z
4 lines per inch		CSI 6 z
6 lines per inch		CSI 0 z or CSI 1 z
9 lines per inch		CSI 2 z
12 lines per inch		CSI 3 z

Function	Sequence 8-bit	7-bit
SET PRINT QUALITY		CSI qual " z
draft		CSI 0 " z or
		CSI 1 " z
letter		CSI 2 " z
UNDERLINE		
enable underline		CSI 4 m
disable underline		CSI 0 m
SELECT FONT (0 - 4)		CSI 1 font m
SELECT CHARACTER SET		CSI gset cset
gset: (= G0 primary	cset:	UK = A
) = G1 primary		USASCII = B
* = G2 primary		Finnish = 5
+ = G3 primary		Norweg/Danish = 6
, = G0 alternate		Swedish = 7
- = G1 alternate		German = K
. = G2 alternate		French Can. = 9
/ = G3 alternate		French = R
		VT100 drawing = 0
		Italian = Y
		Spanish = Z
		Multinational = <
HORIZONTAL TAB CONTROL		
Horiz. Tab Set	HTS (136)	ESC H
tab clear at active position		CSI 0 g
clear all tabs		CSI 2 g or
		CSI 3 g or
		ESC 2
Set tabs		CSI t1 ; t2 ; ... ; tn u
VERTICAL TAB CONTROL		
Vert. Tab Set	VTS (138)	ESC Z
set vertical tabs		CSI t1 ; t2 ; ... ; tn v
clear vertical tab		CSI 1 g
clear all vertical tabs		CSI 4 g or
		ESC 4

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